97.N.Bot.0011

AR-D.

Catalogue of Exhibition of Arts, Manufactures etc at Edinburgh, George St.

1840.

~~AR-D.~~

97 N5a.0011

Ex. AR-D.

CATALOGUE

OF THE

EXHIBITION

OF

ARTS, MANUFACTURES,

AND

PRACTICAL SCIENCE,

IN THE

ASSEMBLY ROOMS, GEORGE STREET.

DEC. 1839—JAN. 1840.

SECOND EDITION.

EDINBURGH: PRINTED BY NEILL & CO.

Price Sixpence.

COMMITTEES.

EDINBURGH SUB-COMMITTEE.

The Edinburgh Sub-Committee is entrusted with the entire management of the business of the Exhibition, and was appointed for this purpose by the General Committee.

Mr Adie.
Mr Astley, Bonnington Chemical Works.
Mr Bailey, Portobello.
Mr Baird, Shotts Iron-Works.
Mr Bryson.
Mr Lindsay Carnegie of Kinblethmont.
Mr Charles Cowan, Penicuik.
Mr Crawfurd of Cartsburn.
Sir John Graham Dalyell, President of the Society of Arts.
Mr Dunn, Curator of the Society of Arts' Museum.
Mr Ford, Holyrood Glass-Works.
Mr W. Fraser, Printer.
Mr John Fyfe, (Glasgow).
Mr Galbraith, Teacher of Mathematics.
Mr John Girdwood, Rutland Square.
Mr Haldane, Haddington.
Mr James Hay, (Leith).
Mr Hay, Painter, George Street.
Dr Hunter, Hillside Crescent.
Mr Lawson, Seedsman to the Highland Society.
Mr Learmonth, Moray Place.
Mr Lees, Lecturer on Natural Philosophy.
Mr James Milne.
Lord Murray, Great Stuart Street.
Mr Hugo Reid, Glasgow.
Mr Slight, Curator of the Highland Society's Museum.
Mr W. C. Trevelyan.
Mr Trotter, 10 North St David Street.
Sir George Warrender.
Mr Whytock, Lasswade.
Mr C. H. Wilson, Trustees' Academy.
Dr D. B. Reid, *Convener of the Committee.*

THE DIRECTING COMMITTEE.

This Committee (composed of Members of the Edinburgh Sub-Committee) was appointed at a meeting of the General Committee, and through them all orders are transmitted to the various attendants employed by the Edinburgh Sub-Committee. One of the members of this Committee must always be at the Assembly Rooms, to regulate the Experimental arrangements, the admission of Visitors, &c. &c. In all cases that require immediate attention, this Committee, or any of its Members, are empowered to act on their own responsibility, reporting their proceedings at the daily meeting of the Sub-Committee.

MEMBERS.

Mr Craufurd. Mr C. H. Wilson. Dr D. B. Reid.

SOCIETY OF ARTS' COMMITTEE.

Dr M'Lagan.
Mr Stevenson.
Mr Galbraith.
Mr C. H. Wilson.
Mr Dunn.
Mr J. S. More.
Mr Craufurd.
Mr Sang.
Mr Tod.
Dr D. B. Reid, *Convener.*

DUNFERMLINE COMMITTEE.

Mr James Alexander, Manufacturer.
Mr James Morris, Provost.
Mr George Birrel, J. P., Manufacturer.
Mr Erskine Beveridge, Manufacturer.
Mr Robert Beveridge, Manufacturer.
Mr James Inglis, Manufacturer.
Mr William Kinnis, Manufacturer.
Mr John Miller junior, Printer.
Mr John Rutherford, Mill Spinner.
Mr John Dewar, Manufacturer and Design Painter, Pattern Drawer.
Mr David Lawrie, *Convener of the Committee.*

GENERAL COMMITTEE.

The General Committee includes the Members of the preceding Committees, and also the following gentlemen:

The Marquis of Lothian.
Mr J. Alison, Leith.
Dr Balfour, 15 Dundas Street.
Mr H. G. Bell, Glasgow.
Mr Blood of Cranekar.
Mr Bonar.
Sir Thomas Brisbane, President of the Royal Society.
Mr Brown, Drummond Place.
Mr Campbell, Brewer.
Mr Drysdale Carstairs, Leith.
Dr J. Coldstream, Leith.
Mr H. Cowan, Leith.
Dr Cowan, Leith.
Sir John Dalrymple.
Dr Farquharson, Northumberland Street.
Mr W. Gibson-Craig.
Sir Charles Gordon, Secretary to the Highland and Agricultural Society.
Mr Mackay, New Buildings, North Bridge.
Mr Maclachlan, South Bridge.
Mr A. E. Menteith, Advocate.
Mr Miller, Newington.
Mr Mitchell, Greenside Place.
Dr Neill, Secretary to the Wernerian and Caledonian Horticultural Societies.
Dr Robertson, Queen Street.
Sir John Robison, Secretary to the Royal Society, Edinburgh.
Mr Sibbald, George Street.
Mr Steel, George Street.
Mr William Taylor, Leith.
Mr Patrick Wallace, Provost of St Andrews.
Professor Wallace.
Lieutenant-General Alexander Wilson, Imperial Russian Service.

It has also been proposed to request the following gentlemen to act as Extraordinary Members *ex officio.*

The Lord Provost.
The Lord Advocate.
The Provost of Leith.
The Principal of the University.
The President of the College of Physicians.
The President of the College of Surgeons.
The Master of the Merchant Company.
Professors of the University, and Teachers (who may have the Diploma or Degree of any British Universities) of Mathematics, Natural Philosophy, Chemistry, Natural History, and Teachers of the School of Design.

PRELIMINARY NOTICE.

THE position of the Arts and Sciences, in the present day, is, in many respects, peculiar, and has no parallel in the records of former times. The light of science has now been kindled in every quarter of the globe. Nation may be said to communicate with nation through the journals that give expression to their opinions; the press gives permanency to the treasures of knowledge and experience that are revealed by each successive age; and the great truth is now beginning to be practically admitted, that the progress and happiness of society are intimately and essentially linked with the advancement of science. We owe, indeed, to the combined influence of art and science, those gigantic improvements that have given to modern times their more peculiar features, and placed in the hands of the philanthropist powers and capabilities which enable him to extend his sphere of action; while these, in their turn, provide the opportunity by which he can advocate, through a wider and daily increasing circle, those means and measures that affect the higher destinies of man, as a social, as a moral, and as an accountable being.

Social improvement, national industry, and national taste, are so necessarily associated with each other, and these, again, with the progress of good feeling and intellectual and religious knowledge, that it would be difficult to trace, in all their relations and ramifications, the line of demarcation between them. Happily, in the present age, an unprecedented impulse has been given to the whole; and though, formerly, mankind may have been only united for the purposes of national aggrandisement, gratification of pride, or the destruction of their species,—the

present generation may be permitted to hope, that the combined exertions of millions of the human race are everywhere now in active operation, for promoting the cause of individual happiness and universal peace.

Among the numerous plans that have, from time to time, been suggested to facilitate the progress of art and science, few seem to have been so generally successful at present as the various Expositions and Exhibitions of Arts, Manufactures, and practical Science, that have given so much satisfaction both at home and abroad. In the first attempt to introduce these into Scotland, the Sub-Committee feel that they are equally called upon to claim the indulgence of their fellow-citizens, and to express their gratitude to those Public Boards and Institutions that have assisted them on this occasion; to the Municipal Authorities for the public recommendations which they issued, and to those engaged in science, arts, and manufactures, in this City, and generally throughout Scotland, whose contributions have enabled them to proceed with the present Exhibition. The Press, also, has never failed to advocate the cause in which they were engaged, from the first period that it was proposed to have an Exhibition in Edinburgh.

In congratulating their fellow-citizens upon the results of the present attempt, the Sub-committee trust that it may lead to some permanent establishment, which shall present to the public in the metropolis of Scotland, and also to all its schools and academies, a Museum of Art and Science which shall be equally instructive to the young, and interesting to those of more mature years; which shall be thrown open equally to the man of science and to the artisan,—to the rich and to the poor; which shall unite, in one common interest, all local establishments for Art and Science in Scotland, that may desire to communicate with each other; and which shall be equally open to strangers and visitors, without fee and without price, excepting such contributions as may be essentially necessary to conduct efficiently the business of the establishment, and to add new and interesting specimens to the Collection. And if, along with these, a periodical exposition of the produce of Arts and Manufactures generally throughout Scotland, and of illustrations of new discoveries in practical science, be ar-

ranged, periodically, in temporary or other buildings adapted to the peculiar circumstances of each successive Exhibition, this City might not only be the means of uniting manufacturers and others professionally engaged in cultivating practical science, but also become a medium for extending throughout Scotland, a knowledge of all the most important discoveries in science that bear most directly upon the progress of Art.

In throwing out these views, the Sub-committee do not wish to be considered as advocating at present any special plan, which, to be successful, would require equally the most mature deliberation, and the support of all those public Boards and Societies which have contributed so essentially to the success of the present Exhibition. It will be obvious, however, that to those who are afterwards to be engaged in art and science, nothing would be more important than the institution of an extended Museum of Art and Science, which would assist the acquisition of a knowledge of elementary details, and enable the teacher of professional students to take still higher ground with pupils who, from their school-boy days, should have had constant access to models, of works of art and machinery, and specimens of the productions both of Art and Nature.*

D. B. REID, *Secretary.*

---

* The Sub-committee have several particulars to communicate with respect to Museums, &c. now instituting in different parts of Great Britain; they may perhaps obtain, at a future period, a more appropriate opportunity of adverting to details.

The expenses of the Exhibition are defrayed by subscriptions, and by charging a small sum for admission. Any surplus will be expended by the Committee in promoting the progress of Arts and Sciences; especially,

1. In defraying the expenses of future Exhibitions.
2. In providing specimens illustrative of Arts and Manufactures abroad and at home, and of new discoveries in science.
3. In conducting experiments that may be generally interesting to the Public.
4. In promoting an inquiry into the state of Art and Science in Foreign Countries, or in purchasing valuable Patterns and Designs of every description, for the improvement of Taste and Manufactures.
5. In drawing up and publishing a Report of the Exhibition, or a Catalogue of the Specimens, with such illustrations as may be considered desirable, and a Statement of Income and Expenditure.

CATALOGUE.

IN STAIR-CASE.

Specimen of Asphalte, manufactured by Mr Astley, Bonnington Chemical Works.—*Mr Astley.*

Besides the above specimen, eight hundred feet of this Asphalte have been laid down in a garden walk at Bonnington, in order that its quality may be fully ascertained by the public.

ENTRANCE HALL.

From Neill & Co. Printers and Type-Founders, 9 *and* 10 *Old Fishmarket Close.*

Type-Founding in active operation, with Furnace, Moulds, and other casting and dressing apparatus.

Printing, also in operation, with the following materials:

Two Compositors' Frames or Desks.

Four Pairs of Type Cases.

Four Composing Sticks.

Four Galleys, for holding set up Types.

Two Iron Chesses for ditto.

The above exhibited during the Promenade only.

Printing Press, in daily operation at the Exhibition from 10 A.M. to 10 P.M.

Ink Box, Table, and composition Roller.

Specimen page of various sizes of new Book and Newspaper Types, with their names, copies being printed from them in the Room, and distributed to the visitors gratis.

Same page, printed on Satin of various colours.

Large Specimen Sheet of same kinds of Types, the Ornamental Borders being different combinations of single types.

Several pages of new and old Types.

Specimens of Lithography.—*Mr Nichol, Hanover Street.*

Section of the Strata from the Summit of Crossfell Mountain to Howner Gill, exhibiting the general arrangement of the Strata of the Carboniferous Limestone in the Lead Mining Districts in the North of England.—*Mr T. Sopwith, C. E., Newcastle.*

Copperplate Printing Press.—*Mr D. Hay, Edinburgh.*

Improved self-heating Plate-warmer.—*Mr J. Kennedy, Queen Street.*

A Swedish Knife-board.—*Mr W. Lindsay,* 6 *Mound Place.*

From Mr Carfrae, Prince's Street.

Stuffed Eagle in glass case, with Peacock and antlers on top.

A pair of Stuffed Swans in glass case, with Roebuck on top.

Hungarian Wolf-Dog.

From the Ordnance Storekeepers, Edinburgh Castle.

Thirteen Varieties of Shot.

A 4½-inch Brass Mortar.

Ancient Matchlock.

Old Wall Piece.

Boarding Piece.

An old Iron Chest, with a very complicated lock.—*Mr* ?

This lock was lately found in one of the garrets in the Edinburgh Royal Infirmary. History unknown.

Model of a Machine, constructed by Mr James Watt, Biggar, and used at Heavyside Moss, for draining it into Biggar Water, which is about eight feet above the the levels of the drains.—*Mr Watt.*

Specimen of Oak of the Royal George, as separated lately from the wreck at Spithead, by Colonel Pasley's Galvanic Experiments.—*Dr D. B. Reid.*

East Indian Matchlock.—*Scottish Antiquarian Society.*

From Mr Baird, Shotts Iron-Works.

Turnip Cutter.

Pheasant Feeder, single perch.

Pheasant Feeder, double perch.

Pheasant Feeder, four perches.

Three Iron Milk Dishes, No. 4, 7, 10.

Pig's Trough.

A Cheese Press.

Model of the Adelphi Theatre, Edin.—*Mr Smith, Low Calton.*

German Bath.—*Messrs A. Mullar and Co. Prince's Street.*

From Mr Fairbairn, Rector of the Bathgate Academy.

Illustrative Drawings of Natural Philosophy, by the Pupils of the class of the Bathgate Academy.

England, by the same.

Ireland, by the same.

Scotland, by the same.

Europe, by the same.

Palestine, by the same.

North America, by the same.

From the Directors of the Military Academy, by Captain Orr.

Plan—Attack of an Octagon on the modern system.

Plan of Marshal Suchet's attack on Lerida.

Plan of Marshal Suchet's attack on Mequinenza.

Plan of Marshal Suchet's attack on D'Oropesa.

Plan of the battle of Waterloo.

Plan of the attack, by sea and land, on the Fort of Rosaz.

Plan of Vauban's System of Fortifications.

All drawn by Pupils of the Academy.

Hippopotamus' Head.—*Mr K. Frazer, St Andrew Street.*

Specimen of Upper and Lower Teeth of the Hippopotamus.—*Mr W. Macpherson, George Street.*

Double Damask Table-covers and Table-cloths.—*Messrs E. and R. Beveridge, Dunfermline.*

Antlers of a Deer.—*Mr ?*

GREAT SALOON.

ON THE RED ENTRANCE DOOR.

From Mr C. D. May, 3 Leopold Place, Edinburgh.

Specimens of Lithography from Germany.

One Engraving and one Lithographic Print, representing *Ariadne*, by Professor Danecker, in the museum of Baron Bethmann at Frankfort-on-the-Maine.

Four Etchings, sketched and executed by Achenbach, a very talented young painter of sea-pieces, from the Academy at Dusseldorf. A few copies were only thrown off, and distributed among his friends.

Specimens of Lithographic Drawing, from M. Gustaf Kombst, Great Stuart Street, Edinburgh.

A Lithographic Print, representing Guttenberg, Fust, and Schoffer, the inventors and propagators of letter-press-printing.

A Lithographic Print, representing the poet Schiller.

Specimens of Lithographic Ornamental Card-Printing, on grounds for Visit-Cards and others.

Two Specimens of Lithography.

ON THE RIGHT HAND OF ENTRANCE.

Imitation Marble Column.—*Mr A. Stewart*, 88 *Prince's Street.*

Double Damask Table-cover.—*Messrs E. and R. Beveridge, Dunfermline.*

Four Imitation Scagliola Columns.—*Mr H. Wadman*, 55 *Cumberland Street.*

Sideboard Lamp.—*Mr David Forbes, St Andrew Square.*

Cake of Sal Ammoniac, weighing about five cwt.—*Mr Astley, Bonnington.*

Horn of Sea Lion.—*Mr William Taylor, Leith.*

ON THE LEFT HAND OF ENTRANCE.

From Mr Haldane, Haddington (in Glass Case).

A dress of a Chenook chief, Columbia River, made from the inner membrane of the Whale.

Petticoat, Chenook, made from the bark of trees, worn by the women, Columbia River.

Chenook Hat from the root of the fir-tree.

A Basket from do. do.

A Cone (Pinus Lambertiana), North-west Coast of America.

Smoking Bag, Moose Deer skin, Chippawa Indians.

Shot Pouch, Porcupine Quills.

A Pouch for a watch, do.

Moccasins, Knisteneau Indians.

Box, Birch, Bark, and Porcupine Quills, containing Tripe de Roche, same as used by Captain Franklin and party when their provisions failed.

Birch Rind Basket, Maple Sugar, Lake Superior.

Calumet, used to smoke in the Indian Councils, Apenobaen Indians.

A Snare, with which the Carriboe or Rein Deer is taken by the Chippawa Indians, Attalasca.

Birch Rind Basket, Lake Huron, containing Zizania aquatica (Wild Rice), Pearl Mussel.

Double Damask Table-cover.—*Messrs E. and R. Beveridge, Dunfermline.*

Chinese Pannel.—*Mr A. Stewart, Prince's Street.*

Andrometer.—*Sir George Ballingall.*

Chest of Opium—*Mr John F. Macfarlan, chemist in ordinary to the Queen,* 17 *North Bridge.*

20,000 such Chests were recently destroyed at Canton by the Chinese Authorities, each valued at about L.100,—in all about L.2,000,000.

Sideboard Lamp.—*Mr D. Forbes, St Andrew Square, Edinburgh.*

Plan of Drawing-room Ceiling.—*Mr A. Stewart,* 88 *Prince's Street.*

CENTRE TABLE.

Portion of a Basaltic Column from the Giant's Causeway. —*Mr Chalmers of Merchiston.*

Model of a proposed Restoration of Glasgow Cathedral, by Mr G. M. Kemp, Architect.—*Mr Kemp.*

Specimen of Damask, from Alexandroski, near St Petersburgh.—*General Wilson, I. R. S.*

TABLE I.

Lord Berriedale's Model of a Rotatory Fire-Engine.

Model of a Condensing Steam-Engine.—*Mr Morton, Hill Square.*

Copying Machine.—*Mr E. Collins, Rose Street, Edinburgh.*

From the School of Arts, Edinburgh.

Section of a Condensing Engine.

Model of a Condensing Engine.

Model of a Substitute for Door Springs.—*Mr J. Gilchrist,* 10 *Middle Arthur Place, Edinburgh*

Sectional Illustration of Locomotive Parallel Motion.—*Mr Lees.*

Model of Hearn and David's improved Boiler.—*Mr Hearn.*

Model of a Locomotive Engine.—*Mr George Buchanan, Glasgow.*

Model of aHigh-pressure Steam-Engine.—*Messrs P. and J. Nimmo, Bank Street.*

Model of a Steam-Engine and Carriage.—*Mr Morton, Hill Square.*

Screw used for drawing out Ship Bolts.—*Mr Rose, Leith.*

Improved Smith's Vice.—*Mr Marshall.*

Improved Door Spring.—*Mr Beattie,* 35 *Canal Street, Edinburgh.*

Candlestick.—*Mr J. Sharp, Edinburgh.*

Bed-room Despatch.—*Mr Marshall.*

Water-Filter for Dwelling-houses, &c. acting as the water enters the cisterns.—*Mr James Marshall,* 5 *Barony Street.*

Model of a Ship Safety Hearth.—*Mr Rose, Leith.*

Valve-Cock.—*Messrs Gibson & Son, Greenside Place, Edinburgh.*

Model of Self-acting Weighing Machine, up to 16 oz.—*Mr John Christie,* 104 *South Bridge.*

Model, shewing Hamilton and Müller's Improvement in the Organ.—*Messrs Hamilton and Muller.*

> The object obtained by the invention is an unerring and simple method of opening the largest valves of the Organ with as much ease and certainty as the smallest.

Model of a Punching-Machine.—*School of Arts.*

Drawing of Locomotive-Engine and Train.—*Messrs Grainger and Miller, C. E. Edinburgh.*

Two specimens of Wood-turning, one in the finished state, the other in a preparatory state. Turned by Whiteford, of Mr Trotter's. They were turned out of a piece of solid wood, and the twists made in the act of turning.—*Sent by Mr Edward Smith, Foreman of the Glass-Cutters, Holyrood Glass-Works.*

Model of a Steam-Engine.—*Mr Alex. Morton, Hill Square.*

Gas-Meter.—*Messrs R. Laidlaw & Sons, Simon Square and* 96 *Prince's Street.*

Model of a Gas Meter.—*Mr G. Buchanan, C. E. Edinburgh.*

Improved Cabinetmakers' Flit-Plough, with Irons.—*Mr Alex. Mathieson, Glasgow.*

Sir H. Davy's Safety-Lamp.—*Mr J. S. More.*

TABLE II.

From the Museum of the Highland and Agricultural Society of Scotland, consisting chiefly of the series of approved Agricultural Machines, on a scale of 3 *inches to a foot.*

Model of a Machine for sowing Turnips and bone-dust.
Model of Lord Willoughby's Peat-Compressing Machine.
Model of Bell's Reaping Machine on the clipping principle.
Model of a Machine for sowing carrot and turnip seed.
Model of the Rhomboidal Harrows.
Model of the Canadian Straw and Hay Cutter.
Model of a Hay and Straw Cutter, by Slight & Co.
Model of Smith's Reaping Machine on the revolving principle.
Model of a Turnip-Cutter.
Model of a Bean Barrow.
Model of Morton's Revolving Harrow.
Model of a Piling Machine.
Model of a Machine for Compressing Peat.
Model of Finlayson's Harrow.
Model of Common Swing Plough.
Model of Double Mould-Board Plough.
Model of Scuffler.
Model of a Cottage, consisting of two rooms, by Mr George Smith, architect.
Model of Kirkwood's Grubber.
Model of a Hand Corn-Mill.
Model of a Churn driven by machinery.
Model of a Cottage, by Sir Charles S. Menteith.
Model of a Subsoil Plough.
Model of a Gate, by Mr Hunter of Thurston.
Model of a Cast-Iron Cheese-Press.
Model of a Pneumatic Cheese-Press, invented by Sir John Robison.
Model of a Hay and Straw Cutter.
Model of a Winnowing Machine.
Model of a Broad-Cast Sowing-Machine, by Slight & Co.
Model of a Single-horse Cart and Hay-Frame.

Model of a Grubber.—*Mr Kirkwood, Tranent.*
Model of a Sparging Machine.—*Mr John Girdwood.*

TABLE III.

Elastic Hair-Cloth, for Ladies' Petticoats.—*Mr J. Porteous, Musselburgh.*

This is a very beautiful specimen of hair-cloth manufacture.

From the College Agricultural Museum, sent by Prof. Low.

(The Models in this series are on a scale of 3 inches to the foot.)

Plough partly of wood and partly of iron, formed on the principle of Small's.
Plough formed partly of malleable and partly of cast-iron, and of an approved construction.
Subsoil Plough, by Mr Smith of Deanstoun.
Rhomboidal Iron Harrows, with iron swingle-trees.
Curved Harrows for tilling the rows of potatoes.
Grubber, in which the depth at which the coulters work is regulated by a scale. The Coulters are formed to be raised vertically and simultaneously from the ground, by a parallel motion of the frame-work. Invented by Mr Wilkie, Uddingstone.
Horse-Hoe for tilling the intervals between the rows of plants. Invented by Mr Wilkie.
Horse-Hoe with Lateral Coulters and Mould-boards, as used in the south of Scotland, and the north of England.
Horse-Hoe of a simple construction.
Machine for sowing grains and grass-seeds, broadcast, as constructed by Mr Scoular, Haddington.
Machines for sowing bone-dust along with the seeds of turnips.
Winnowing Machine, with elevators for saving the manual labour of riddling.
Machine for Dividing Turnips. Invented by Mr John Drummond, joiner, Edinburgh.
Rotatory Turnip-cutter. Invented by Mr Hay.
Machine for cutting hay or straw, and for bruising corn. Invented by Mr John Drummond, Edinburgh.
Machine for bruising corn for food.
Corn-Cart, to illustrate the manner of harnessing the horses.

Machine for twisting straw ropes in the manner of the common rope-spinner's wheel.

Machine for comminuting bones for manure. The operation is performed by toothed cylinders working against one another, and the finer parts are separated by revolving cylindrical riddles.

Machine for lifting landfast stones. An iron pin being driven into an aperture, is retained by the elasticity of the stone.

Reaping Machine on the principle of clipping. Invented by the Rev. Patrick Bell.

Machine for conveying large trees for Transplantation. Invented by Sir Henry Steuart of Allanton.

Field-Gate, No. 1. Simple gate for the ordinary purposes of the farm.

Field-Gate, No. 2. Gate which shuts of itself by resting on eccentric pivots.

Improved Bee-hive, for preventing swarming, and for obtaining the honey without destroying the Bees.

Churning Machine, in which the plunge churn is worked by horse, or other motive power.

Cheese-Press, in which the pressure is communicated through a series of wheels and levers.

Dairy buildings for an establishment of 40 cows, with apartments for Storing, Churning, Cheese making, &c., and hot and cold water apparatus for regulating the temperature.

Condensing Steam-Engine for the Thrashing-mill and other stationary machinery of the farm,—in East Side-Room.

Bone-mill,—in East Side-Room.

TABLE IV.

Three Specimens of figured Sewing.—*Mrs Donaldson.*

Waterproof, but Ventilating Lustre.—*Messrs Pantons and M'Intosh, Bank Street, Edinburgh.*

Brush Mats of Horse Hair, for Room-Doors, and Lobbies.—*Mr J. Porteous, Musselburgh.*

From Sir George Ballingall's Museum, University.

Model of a Chair used in the Dock-Yard at Portsmouth

for the conveyance of hurt artificers to their places of residence.

Model of a Dooly, used for the conveyance of sick and wounded in the Indian Army, with the figure of a head Dooly-bearer. See Ballingall's Military Surgery, page 90, 2d Ed.

Model of a Voiture or Spring Waggon, for the conveyance of sick and wounded, described by Baron Larrey in the first volume of his Campaigns. See Ballingall's Mil. Surgery, page 91.

Model of a Military Cart for the conveyance of sick and wounded, &c. &c., the invention of Frederick Cherry, Esq., Veterinary Surgeon-General. See Printed Paper, and Ballingall's Mil. Surgery, page 93.

The Respirator, a Specimen of Metal Work, through which the bearer breathes and speaks with perfect ease. —*Mr Duncan, Druggist, North Bridge.*

Progressive Manufacture of Besoms.—*Mr Tho. Stevenson.*

Jeffrey's Spiral Inhaler.—*Mr* ?

From Mr James Gray, York Lane.

Improved Self-Acting Door-Spring.

Bank Safe-Lock.

Door-Plates which require no cleaning.

From Messrs Sibbald and Sons, George Street.

Improved Tea-Urn.

Improved Coffee-Pot.

From Messrs Smiths and Co. Blair Street.

Japanned Tin Wine-Cooller.

Japanned Tin-Case, or book for housekeeper's accounts and receipts.

Japanned Fire-Blower.

Model of a Book-Holder, to enable a person to read when both his hands are employed; Joint cut out of Solid Wood.—*Mr T. Bryce, Calton Street.*

From Mr Peter Stevenson, Lothian Street.

A Copper Still and Refrigeratory.

Two long Thermometers, such as are used by Brewers.

A Boiler with Stand for illustrating experiments with steam.

Beart's Patent Coffee Pot with Lever.—*Messrs J. Sibbald and Sons, 64 George Street, Edinburgh.*

Model of Shower-Bath.—*Messrs A. Aitken and Co., Hanover Street, Edinburgh.*

SOUTH WALL.

From Mr John Taylor, 55 George Street.

Large ornamental Pier Table.

Small do. do.

A Fancy Flower-basket, on ornamented stand.

A Fancy Fire-screen, with brass pole.

Do. do. do. in gold.

A handsome prepared Window-cornice.

Do. do. do. in gold.

Antique Frame in imitation of carving, for a portrait or mirror.

Two richly ornamented Gold Headsize Frames.

A very rich Bishop's half-length Gold Frame.

A splendid Rosewood Frame, with gold ornaments, for Chalon's Portrait of Her Majesty the Queen.

Richly ornamented Gold Frame, for Parris's Portrait of Her Majesty the Queen.

Rosewood Frame, with the royal arms and gold corners, for Chalon's Portrait of Her Majesty the Queen.

Amboyna-wood Frame, gold inside, with glass, &c. for Sully's Portrait of Her Majesty the Queen.

Antique Rosewood Frame, gold inside, glass, &c. for print of John Knox, preaching before the Lords of the Congregation in St Andrews, 1559.

Antique Maple Frame, gold inside, glass, &c. for print of Melton Breakfast, now publishing.

Rosewood Frame, gold inside, glass, &c. for Wellington's Despatch, now publishing.

Antique Rosewood Frame, gold inside and glass, for print of the Covenanter's Baptism.

Ogee Maple Frame, gold inside, glass, &c. for print of Earl Grey.

Rosewood Frame, gold inside, glass, &c. suited for the Abercorn Family.

Antique Rosewood Frame, gold inside and glass, for print of Shakspeare's Examination.

Rosewood Frame, gold inside, glass, &c. for print of Strayed Children.

Antique Maple Frame, gold inside and glass, for print of Loch An Eilan.

Maple Frame, gold inside and glass, for design of the New Houses of Parliament.

Sixteen Specimens of Gold Frames in different states of forwardness for finishing in gold.

Gentleman's Splendid Writing Desk.
Do. do. Dressing Case.
Lady's do. Writing Desk.
Carved Book-holder.

From Lieut.-Gen. Wilson, I. R. S.

Two Specimens of Weaving in Silk, in imitation of Engraving, from the Imperial Works at Alexandroski, near St Petersburgh,—

(1.) Portrait of his Imperial Majesty the Emperor Nicholas.

(2.) A Landscape.

TABLE V.

Specimens of Work manufactured at the Asylum for the Blind, Edinburgh.

Friction Belt.
Friction Glove.
Gentleman's Cap.
Pair of Carriage Boots.
Silk Purses.
Hearth Rug.
Pair of Doll's Stockings.
Pair of Doll's Shoes.
Pair of Doll's Boots.
Pair of Baby's Boots.
Door Rugs.
Striped Holland.

Section of the Earth and Moon's Orbit, shewing the Moon's Nodes, and also that every part of the Orbit is concave to the Sun. Constructed for the use of the Blind by John Kirkman.

Towellings,
Linen Shirting.
Open Coil Door Mat.

Victoria Shawl, fac-simile of a Shawl presented to Her Majesty Queen Victoria, and made at the Blind Asylum, Edinburgh.

From Messrs A. Crombie and Son.

A Half Bundle Scarlet Spun Silk.
A Half Bundle Black Spun Silk.
A few Skenes Crimson Silk.
A Bundle of Green Spun Silk.
A Bundle Orange and Amber Spun Silk.
A Half Bundle Crimson Wool.
A Half Bundle Green Wool.
A Half Bundle Scarlet Wool.
A Half Bundle Common Black Saxony.
A Half Bundle Green Wool.
A Half Bundle Crimson Saxony.
A Bundle of Black Worsted, dyed to resist Acids.

Ladies' Cape of Waterproof Lustre.—*Messrs Pantons and M'Intosh, Bank Street, Edinburgh.*

A Colossal Head of Moses in Adoration, sculptured in fine stone.—*By Mr J. W. Marshall, 43 West William Street.*

From Mr John Whyte, Pattern-Drawer, 39 Clerk Street, Edinburgh.

Picture and Loom-wove Portraits of the Queen, with the design from which they were woven.
Patterns for Persian Carpets.
Descriptive Scale of a new method of manufacturing Persian Rugs, by which a great saving in workmanship and material is effected, including pattern and materials for weaving two rugs.
Pattern of a Rug.
Patterns for Brussels Carpets.
Two Rugs in their finished state.
Picture and design of Napoleon in Exile, for a fire-screen pattern.
Design of a Hunting Scene for a fire-screen pattern.

From T. B. Holdway, Teacher of Pattern Drawing, Royal Institution.

Patterns for Embroidery, Printing, &c. &c.
Patterns for Scoto-Turkey Carpet Manufacture.
Patterns for Scarlet Long Shawl and Black do.
Patterns for Mouseline de Laine.
All on Plain Paper.

TABLE VI.

A Map of England, shewing the manner in which the Blind are taught geography. This plan was invented and the map executed by Mr J. Richardson.—*Blind Asylum, Edinburgh.*

From Messrs Thomas Ireland and Son, 37 *South Bridge.*

Bohemian Shawl.
Bohemian Carriage-Cloak.
Two Bohemian Scarfs.

Specimens of Utrecht Velvet.—*The Hon. the Board of Trustees.*

One Long, and Three Square, Cashmere Wool Shawls.—*Messrs J. and W. Howison, Manufacturers, Edinburgh.*

Specimens of Ayrshire Needlework.—*Mrs Dick, Manufacturer*, 37 *George Street.*

Specimens of Embroidery.—*Mrs Mullar.*

From Messrs J. and A. Ogilvie, 124 *High Street, Edinburgh.*

Four Specimens of Tartans made from Saxony Wool.
Seven Shawls of various Tartans made from Saxony Wool.

Piece of Elastic Haircloth.—*Mr J. Porteous, Musselburgh.*

TABLE VII.

From Mr Harvey, of Harvey's Bazaar, Prince's Street.

A Tortoise-shell Cabinet, richly inlaid with Silver and Mother-of-Pearl, considered one of the most magnificent specimens of Shell manufacture. Made at Birmingham.
Musical Box.
A Man grinding,—a very ingenious toy.
An Accordion.
A superb set of French Porcelain Ornaments, consisting of a pair of Vases, an Eighteen-day Clock, and Two Figures supporting jars.
Four Letter Weighers.
Pincushion for Toilet.
A Fourteen-day Clock, with Transparent Stand and Dial, and Invisible Movement.
Berlin Figures.

Two French Paintings.
Papier Maché Case and Japanned Tray.
An Automaton Chinese Juggler.
A Picture-Clock, with a Miniature Railroad in front, and Trains going at different speed.
A very large Ironstone China Jug; rare shape, Staffordshire.
An Automaton Singing Bird.

TABLE VIII.

From Messrs Richard Whytock and Co. George Street.

A Scoto-Persian Footstool Top.
Three Scoto-Persian Rugs.
A Patent Edinburgh Velvet Carpet, with border.
Piece brown and Amber Silk and Linen Taboret.
Piece crimson Silk and Worsted Damask.
Piece blue and white Silk and Worsted Damask.
Piece morone Ground and pink Furniture Tapestry.
Fancy Table.—*Mr William Girdwood, Rutland Square, Edinburgh.*

TABLE IX.

From Messrs Craigs Brothers, 11 *St Andrew Square.*

A Mahogany Screen with 13 pieces of printed and checked Flannels.
A brass rod with Edinburgh made Umbrellas, viz.—
A Gig Umbrella.
3 Silk Umbrellas.
2 Cotton Umbrellas.
1 Umbrella Frame before being covered.
A Circular Frame, &c. with a Table-Cover and a Plaid Shawl Waterproofed in Edinburgh by a new process, which can be applied to any cloth without deteriorating its other qualities.
Two Air Pillows.
Four pieces of Edinburgh Manufactured Plaids.
Three Edinburgh Embroidered Vest Pieces, Tartans.
A Piece of Waterproof Cloth, shewing the manner in

which the London Caoutchouc Company prepare their goods, with a Can of their Paste, &c.

A Piece of Elastic India Rubber Millband for Machinery, Window Blinds, &c.

Tool-Chest, containing a great variety of Carpenters' Tools.—*Mr W. Stewart, Nicolson Street, Edinburgh.*

From Mr Bald, Mining Engineer.

Persian Cap.

Eight Varieties of Persian Stockings.

Persian Under-Dress, named Juba, the exterior of Indian Chintz of fast colours, *never yet equalled* in any country; the Lining of inferior Cotton Print.

Persian Tunic, full dress, the Exterior of the rich Cashmere Shawl Fabric, the interior of the Persian loom, knitted on needles by the maids of Persia.

Persian Gama, or Dagger, of the most approved manufacture.

Persian Knife or Dagger for the girdle, the texture of which exhibits the singular Bamast arrangement of the steel fabric.

Two Persian Pen Cases of Taberg, worn in the girdle.

Illustrations of the Manufacture of Woollen Cloths at Huddersfield.—From Messrs Girdwood & Son, 2 Bank Street.

Raw White Wool.
Dyed do.
Scribbled, prepared for carding.
Carded, prepared for slubbing.
Slubbing, prepared for spinning.
Spun, prepared for weaving.
Wove and Scoured, prepared for milling
Milled and in the Balk State.
Finished Blue Kersey.

Progressive Series of Flax Manufacture by Messrs Mann and Son, Arbroath.

1. Specimen of the plant Linum usitatissimum (Flax.)
Archangel Flax from the Head.
Archangel Flax Heckled.
Archangel Tow from 1st Heckle.
Archangel Tow from 2d or finest Heckle.

1st Flax Drawing.
2d Flax Drawing.
3d Flax Drawing.
Flax Roving.
3 lb. Flax Yarn.
2 lb. Flax Yarn.
Wet Spun Yarn, 1 lb. per spl.
Canvass Yarn in the state in which it is wove, having undergone a process of washing, boiling, &c.
Bleached 5 lb. Tow Yarn for export.
Canvass, Dowlas, and Sheeting.
Export Canvass—Heavy Yarn in the state in which it is wove.
Bleached 3 lb. Flax Yarn for Dowlas, &c.
24 Porter Osnaburgh.
26 Porter Tow-sheeting.
32 Porter Flax Dowlas.
34 Porter Flax Dowlas.
36 Porter Flax Dowlas.
38 Porter Flax-sheeting.
38 Porter Brown sheeting.
Riga Flax from the Head.
Riga Flax Heckled.
1st Heckle Tow from Riga Flax.
2d Heckle Tow from Riga Flax.
1st Tow Carding.
2d Tow Carding.
3d Tow Carding.
Tow Drawing.
Tow Roving.
Sail Twine, Fine Flax.
Canvass Yarn in the Rough, 20 lb. per spl.
Tow Yarn 4 lb. per spl.
Tow Yarn 3¼ lb. per spl.
Plain Sacking.
Tweeled Sacking.
Tarpaulin Cloth.
Merchant Canvass.
Common Brown Canvass.
Best boiled Sail-Cloth.
Bleached Export Canvass, wove without starch
Bleached Export Canvass.

Illustrations of Manchester Cotton-Spinning, from Mr Basley's Manufactory.—Dr D. B. Reid.

First carding of fine Cotton, intended for the manufacture of fine Scotch muslins and lace goods.

The Drawing-frame Roving, in which the fibres of cotton are in parallel positions.

The finest Bobbin Roving.

200 Cop Yarn, as spun.

200 Single Yarn, in hank.

Lace Thread twofold, in hank, No. 200.

A Bobbin of twofold Lace Thread, as produced, No. 200.

The first Bobbin-frame Roving, being the production of an attenuating process.

Second or finishing Carding.

Fine South Sea Island Cotton as imported in the bag, from Charleston in the United States of America, and worth 3s. 6d. per lb.

11 Pattern Pieces, Double Damasks and Jug-Matt.—*Messrs E. and R. Beveridge, Dunfermline.*

Rich Embroidered Mantilla, the same as one lately presented by them to Her Majesty.—*Messrs Thomas Ireland and Son.*

Specimens of Stereotype Plates from Messrs W. and R. Chambers, designed to shew the principal steps in the process of Stereotyping.

A page of Moveable Types of "Chambers's Journal," as finished by the compositors.

Specimen of Engraving in relief on copper by Mr T. Dobbie.

A Cast in Stucco from the page. This cast, after being baked in an oven and placed in a pan, is dipped into molten lead.

A Stereotype Plate, from a cast resembling the above. This plate is coarse and rough, as it was taken from the pan.

A similar Plate advanced a stage, by being turned on the back, and reduced to an uniform thickness.

A similar Plate, made perfectly smooth on the back by means of a planing machine, and otherwise dressed to be ready for printing from.

A wooden Block, upon which the Plate is fixed by side-catches, and thus being brought up to the common height of a page of types, is placed, with other plates, to form a sheet upon the table of the printing-machine.

An 8vo page of Moveable Types, shewing Wood-Cuts or Engravings inserted among the types.

A Stereotype Plate from this page of types, shewing the effect of stereotyped wood-cuts. The Engravings are observed to be transformed to metal.

This Plate belongs to a forthcoming work—Travels in the Birman Empire—in the "People's Editions" of Messrs Chambers. The cuts represent some of the trees and fruits of eastern climates.

In addition to the above specimens, the Machine for planing the backs of the Plates will be shewn during two days of the Exhibition. It is of American invention, but made in London, and forms one of the greatest improvements in the mechanism of stereotyping in modern times. Before it came into use (and it is yet almost unknown in Scotland), Plates received no higher a finish than that indicated in the specimen No. 3.

Specimen of the New Art of Stereography invented by Mr John Howell, 32 Thistle Street.—*Mr John Howell.*

Plate of the First Page of the "*Life of God in the Soul of Man*," a book stereotyped and published by Ged, a silversmith of Edinburgh, in 1742. Ged also published, three years earlier, a stereotyped copy of Sallust.—*Mr Claud Russell.*

Plate of pages 141–144 of an edition of Milton's Paradise Lost, stereotyped by Messrs Foulis of Glasgow, the revivers of stereotype.—*Mr Charles Macpherson.*

Mr Thomas Wright, Gold-Beater, 25 *New Street.*

Case of Gold and Silver Leaf.

In the left-hand Division—

Fine Gold, fine Silver, flatted Gold, flatted Silver, globular piece of fine Silver.

In the middle Division—

Leaf-Gold after having been beat in vellum.
Leaf-Gold, after having passed second process.
Leaf-Gold, after having passed third and last process.
Leaf, pale Gold, do. do. do.
Leaf-Silver. do. do. do.

In the right-hand Division—

Skins in which the Leaf-Gold is finished.

Skins in which it passes through the second process.
Vellum Skins for the first process.
A pair of Pincers for lifting up the Leaf-Gold.

Model of Balcarras Chapel, made of 600 polished Scotch Pebbles and Jaspers.—*Mr Alexander Hay, Brown's Place, Edinburgh.*

From Mr Bald, Mining Engineer.

New Zealand Cloak, made of flax.
Three Vases of Porphyry, from Sweden.
Marble Slab.—*Messrs Lawrie & Ferguson, Leith Walk.*

From Messrs M'Donald and Leslie, Aberdeen.

Vases of Peterhead Granite, made by machinery.
Slab of Granite.

Vases of Peterhead Granite.—*Mr John Miller, Edinburgh.*
Very large Crystal of Cairngorm, Aberdeenshire.—*Mr K. Fraser*, 17 *St Andrew Street.*

From Messrs Marshall and Sons, George Street.

Model of the Lorn Brooch.
Slab of Peterhead Granite, inlaid with agates and jaspers.
24 varieties of Peterhead Granite.—*Museum of the Highland and Agricultural Society.*
Slab containing specimens of rare and ancient Marbles from Rome.—*Mr Charles H. Wilson.*
Balance for weighing Letters with weights.—*Messrs Smiths and Co. Blair Street.*
Patent Coffee-Pot from the Exposition à Paris. — *Mr Sturrock.*

From Mr Adam Dick, Carver and Gilder, Carruber's Close.

Miniature.
Imitation of an Indian Jar-stand.
Specimens of Sculpture in Porcelain.—*Mr Adams, South Bridge.*

From Messrs A. Müllar and Co. Prince's Street.

Various articles of Berlin Iron, and the various stages of Nickel Silver manufacture, from the crude state of the Nickel, up to the finished article.
Two Coffee-Extractors, on the Nickel Silver Tray, in which the whole operation is visible, the article being entirely of glass.

Specimens of Ornamental Bookbinding, entirely new in this country.

Miniature Frames in Gold, which will bear washing.

Paper Folder and Desk Seal of Ivory, surmounted by exquisitely fine carved figures of a Bacchanalian and a Silenus—French manufacture.—*Mr Robert Bald, Mining Engineer.*

Turned Ivory Vase.—*Mr James Taylor, Glasgow.*

Allan's Saccharometer, made by Mr Peter Stevenson, Philosophical Instrument Maker, Lothian Street.

Models of the various Watch Escapements.—From Mr Bryson, South Bridge.

The Verge or Vertical Escapement, the oldest now in use.

The Horizontal Escapement, invented by Graham, has been long in use; and although invented long after the Duplex Escapement, No. 3, is generally ranked as the second improvement; the Duplex not being generally used until nearly half a century after its invention.

The Duplex Escapement. Invented by Dr Hooke in the year 1666. Considered the best escapement for pocket watches.

The Detached or Chronometer Escapement, was invented by Thos. Earnshaw. It is now universally employed as the escapement for marine time-pieces. For its invention, and the performance of his chronometer, he received a Parliamentary Premium.

Hardy's Upright Seconds Pendulum. Lately the property of his late Majesty George IV.

Small High-pressure Steam-engine.

A Metallic Thermometer. Invented by Mr Bryson.

Photogenic Camera, made by Mr Davidson, optician, Royal Exchange, Edinburgh.—*Mr Davidson.*

Galbraith's Pocket-Box Reflecting Circle.—*Mr Galbraith,* 54 *South Bridge.*

From Mr Dunn, Optician, 50 *Hanover Street.*

A Portable Transit Instrument.

A 4-inch Altitude and Azimuth Instrument, divided to 15″ (repeating).

A Common Quadrant, with Telescope.
Best Pillar Sextant, divided to 10″.
A Theodolite, newest construction.
A Thermometer, shewing in its mounting an application of Ornamental Ivory-Turning.
A Daguerreotype View of the Tuilleries, taken by M. Daguerre.

Jar with Balloon.—*Mr P. Stevenson, Lothian Street.*
Small High Pressure Engine.—*Alex. Bryson, Edinburgh.*
Watch-makers' Tools.—*Messrs Russell and Clark, Edinburgh.*
Progressive Watch-making Apparatus.—*Mr R. Bryson, Edinburgh.*
Loo Table of paint, in imitation of Pebble-stones, 4½ feet in diameter, 3–8ths of an inch in thickness, and of the same beauty throughout as on the surface, the work of seven years.—*Mr James Glover*, 8 *Leith Terrace.*

TABLE AT WINDOWS.

Specimens of Tartans, Air-cushion, Waterproof Cloth and White Cotton Cord, Embroidered Waistcoats, Progressive manufacture of Mackintoshes, and also specimens of the Paste.—*Messrs Craigs Brothers.*
Specimens of Tartans and Fancy Satin Vestings.—*Edinburgh Cloth Company.*
Model of the first stage of building a Ship of the Line.—*Ship-Carpenters' Society, Leith.*
Ancient War Galley.—*Scottish Antiquarian Society.*
American Rocking Chair—*Mr Carrick.*
Fac-simile of Gordon of Rothemay's Bird's-eye View of Edinburgh, taken in 1617.—*Mr* ?
Damask Table Cover.—*Messrs Robt. and G. Birrel, Manufacturers, Dunfermline.*

From the Edinburgh Cloth Company.

Piece of Menzies hunting Tartan, made from Scotch Wool.
4 Pieces Silk FancyVestings.

Lithographic Printing Press, in operation.—*Messrs Forrester and Ruthven, George Street, Edinburgh.*

From the Ship-Carpenters' Society, Leith.

Outline of a Building Plan of a Steam-ship.
Model of a Ship in Frame.
Double Damask Table-covers.—*Messrs E. and R. Beveridge, Dunfermline.*
Model of the Bow of a Ship.—*Mr Rose, Leith.*
Model of a Rosehearty Fishing Boat, made by Mr James Taylor, Rosehearty.—*Rev. Dr John Ritchie, Edinburgh.*

From the Scottish Antiquarian Society.

Shirt of Mail.
Roman Camp-kettle.

From the Commissioners of Northern Lights.

Model of the Bell Rock Lighthouse, exhibiting the state of the works while building.
Model of Section of a Ship in Plaster-of-Paris.

Plan of a Steam-ship.—*Ship Carpenters' Society.*
Double Damask Table-Cover.—*Messrs E. and R. Beveridge, Dunfermline.*
Working Elevation of a Pumping Steam-Engine, drawn by *Mr J. Milne, Edinburgh.*
Sample of Navy Canvas.—*Messrs Renny, Sons and Co. Arbroath.*
Sample of Navy Canvas, made by the Edinburgh and Leith Ropery Company—*Mr James Hay, Leith Links.*
Models of the present, and also of the old Eddystone Lighthouse, by Mr Smeaton—*Royal Society.*
Model of the Bell Rock Balance Crane.
Picture of the Ship Great Harry, built at Woolwich in 1514.—*Mr Rose, Leith.*
Section of a Ship—*Mr Hay, Leith.*
Plan of the proposed Harbour and Dock at Trinity.—*Mr ?*
Specimen of Printing in Colours from the Lithographic Stone.—*Messrs Campbell and Rae, Glasgow.*
Three Double Damask Table-Covers.—*Messrs E. and R. Beveridge.*
Model of a Ship's Stern.—*Mr Rose.*
Pernambuco Boat.—*Miss Astley.*

From Mr Rose, Leith.

Model of Tyzack, Dobinsons & Co.'s Patent Windlass.
Model of a Frigate on the Launch-ways.
Model of a Ship-steering Wheel.
Model of a Steam-ship, with Paddle at the Stern—*Highland and Agricultural Society's Museum.*
Model of a Ship of the Line—*Ship Carpenters' Society.*
Specimen of Ornamental Writing—George IV. on Horseback, by Master Oliver.
Model of the Hussar Frigate 46 guns.—*Directors of the Naval and Military Academy.*
Model of an East-Indian Canoe—*Royal Society.*
Model of a Steam-ship.—*Mr Rose, Leith.*
Model of Improved Anchor.—*Mr Rose, Leith.*
Models of Two Windows in the Chapel of George Heriot's Hospital.—*Mr Alexander Black, Architect, Edinburgh.*
Double Damask Table-Cover.—*Messrs E. and R. Beveridge, Dunfermline.*
Model of a Steam-ship, in a glass case.—*Mr Rose.*
Model of a Ship of the Line rigged.—*Ship-Carpenters' Society.*
Specimens of Sail-Cloth used in the Russian Navy, from Alexandrosski, near St Petersburgh—*Lieut.-Gen. Wilson, Imperial Russian Service.*
Model of a Map and Chart Table.—*Mr Thomas Duncan.*

From Mr Baird, Shotts' Iron Works.

Drawing of Isaac's Church, St Petersburg.
Drawing of Alexander's Pillar, St Petersburg.
Perspective View of a Pumping Steam-Engine, drawn by *James Milne, Edinburgh.*

From Messrs W. and A. K. Johnston, St Andrew's Square.

Copperplate Printing-press in operation.
Specimens of Copperplate Engraving.
Working Model of the Dredge-Vessel now used in Leith.—*Mr Rose, Leith.*

From Mr Brunel, Civil Engineer.

Model of the Thames Tunnel—with diagrams and illustrations of the Shaft of the Shield.

Imitation Chinese Table.—*Messrs G. Nicholson and Co. George Street, Edinburgh.*

The Lord's Prayer in a variety of Characters.

Model of a Sun-dial.—*Mr J. Annan.*

Model in plaster of Paris of a Dragon.

Model of a Chapel.—*Mr Rose, Leith.*

Lithograph of the Scott Cenotaph in Edinburgh.

Design for a Corinthian Pilastre, in Arabesque.—*Mr James Paterson.*

A Working-Model of Mr Ponton's Galvanic Telegraph, by which 42 different signals are communicated from one end of the large room to the other. A gong is rung, to call the attention of the operator, and each signal, or series of signals, instantly returned, so as to prevent the possibility of mistake. The only medium of communication is *three* insulated copper wires laid between the two stations, which may be any distance from each other. The model constructed by Mr J. Dunn, optician, 50 Hanover Street.—*Mr Ponton, Edinburgh.*

For a fuller description of the Telegraph, see Addendum to this Catalogue.

TABLE X.

Chalk Drawing of Mars in Repose, from the Statue in the Trustees' Gallery, Royal Institution, Mound.—*Mr J. Dobbie.*

View of Sir Walter Scott's Monument.—*Mr G. M. Kemp.*

Three Sectional Views of Thames Tunnel.—*Mr Brunel, London.*

From Messrs M'Crie & Co., Prince's Street, Edinburgh.

Blocks used in Printing-Paper-Hangings, with specimens of Paper printed from the blocks.

Flock used in Paper-Printing.

Design for a Sideboard.—*Mr Thomas Sloan, Mint.*

From Mr James Paterson, Pupil in the School of Design, Royal Institution, Edinburgh.

Design for a Triumphal Arch.

Design for a Cream Ewer, Wine Jug, and Cup.

Design for an Iron Balustrade.

Design for an Epergne.

Design for a Pannel of a Door for execution in iron or bronze.

Imitation of a Chinese Table.—*Messrs G. Nicholson and Co.*

The Works of a Steeple Clock—*Mr R. Bryson, South Bridge.*

From the Commissioners of the Northern Lighthouses.

Paraboloidal Reflector, with Lime-ball Apparatus for exhibiting the oxyhydrogen light.

Paraboloidal Reflector burner without a distinguishing disc.

Paraboloidal Reflector, with burner and disc of red, same as that used at Bell Rock Lighthouse.

Paraboloidal Reflector, with a cylindrical red glass tube.

Harbour Light of Bordier and Marcet.

Catadioptric Apparatus of Fresnel used for harbour lights, Annular Lens of Fresnel, and its Great Burner with four Concentric Wicks, such as in use at Inchkeith Lighthouse.

Refractor for Lights of the first order.

Apparatus for Solidifying Carbonic Acid Gas by Condensation.—*From the Royal Gallery of Practical Science, London.*

The Committee take this opportunity of returning their warmest thanks to the Council of the Royal Gallery of Practical Science, for the handsome manner in which they responded to their wishes, and they trust that Scotch manufacturers, and others interested in the promotion of the useful arts, will see the advantage of forwarding to the Council of the Royal Gallery of Practical Science any improvements they may make.

From Messrs W. and J. Anderson, 22 Nicolson Street, Edin.

Japanned Leg-Bath.

Improved Leg-Bath.

China imitation Foot-Bath and Jug.

China imitation Basin and Jug.

Two Specimens of Coal.—*Sir G. Grant Suttie of Preston-Grange.*

Specimen of Coal.—*Sir J. H. Dalrymple.*

Specimen of Coal.—*The Marquis of Lothian.*

Specimen of a Lamp from the North Bridge.—*Edinburgh Gas Company.*

Chinese Tea-Caddie, imported in the Isabella to Leith.—*Messrs Andrew Melrose and Co.* 93 *George Street, Edinburgh.*

From Messrs James Milne and Son, Brassfounders, Edin.

Milne's Patent Hydrostatic Gas Regulator,—working model.

Milne's Flexible Gas-Tube for Shifting Lights.

Gas-Meter with the Front-plate removed, showing part of the interior movement.

Sir J. Robison's Improved Gas-Burner.

TABLE XI.

From the Board of Trustees.

8 Specimens of Etruscan Ware made in Scotland.

1 Specimen of the Neapolitan Ware, Etruscan Pattern.

Copperplate for Printing the Etruscan Ware.

Hot-Water Apparatus.—*W. and J. Anderson,* 22 *Nicolson Street.*

Specimens of Jasper Glass, from Mr Ford, Holyrood Glass-Works.

4 Long Jasper Toilette Bottles.
16 Large do. do. different shapes.
18 Smaller do. do. do.
31 Large Carnation Glasses.
6 Smaller do. do.
4 Half-pint Goblets.
59 Wine Glasses.
18 Claret do.
19 Liqueur do.
12 Vases.
3 Wine Decanters.
1 Large Jug.
1 Small do.

From Messrs A. Müllar and Co., Prince's Street.

Specimens of Casts in Berlin Iron, among which are the present King of Prussia on horseback; Sir Walter Scott; and the Last Supper, by Leonardo Da Vinci.

Specimens of Embroidery by Mrs Müllar.

Specimens of Hair Work, by Mr P. Hay, watch-maker and jeweller, Leith Street.—*Mr P. Hay, Leith Street.*

From the Royal Society's Museum.

Specimens of Rocks from the Lipari Islands.

Lava from Mount Etna.

Specimen of Volcanic Island thrown up near Malta.

This is a fragment of Graham Island, which was sent to the Royal Society by Sir Walter Scott.

Tea-Caddy made of Lava.—*Mr Robert Bald, M. E.*

Beautiful Letter-weighing Machine.—*Mr D. Forbes, St Andrew Square, Edinburgh.*

From Dr D. B. Reid.

Greenstone of Salisbury Crags.

Do. do. melted into glass by quick cooling.

Crucibles in which it was fused.

These, and the accompanying specimens, illustrate the principles which regulate the production of Jasper Glass.

From Mr Rose, Lecturer on Geology, Edinburgh.

One wooden case of Scotch Minerals.

Do. do. of Zeolites, varieties of Stilbites.

Glass changed into Stone by slow cooling.

Specimen of Commercial Sulphur from Sicily.

Specimen of Petrified Wood.

A pair of Highland Bagpipes.—*Mr Thomas Higgins, Grassmarket, Edinburgh.*

Ingenious Hydrogen Lamp.—*Mr Stedden, Waterloo Place.*

Bohemian Flower-jars, three Crystal Water-jugs, and Lamp.—*Mr Forbes, St Andrew Square.*

From the Albion Cloth Company, North Bridge.

Suit of Highland Accoutrements manufactured by the Albion Cloth Company.

Otaheite War Sword.

Earl of Gowrie's Hunting Sword, Reign of James VI.

Claymore of 1414.

Yatagan.

Helmet.

Ancient Highland Foil.

Two cases of Minerals.—*Mr Rose, Drummond Street.*

Simpson's illustration of the progressive Manufacture of a Medical Instrument used for operating on the eye.—*Mr Simpson, College Street.*

From Mr William Bailey, Portobello.

Variety of Specimens of Cut Glass, containing Prince Albert's Vase.

Lobby Lamp.

The Melbourne Wine Decanter, &c. &c.

Hindoo Household god.—*Mr Marshall, 5 Barony Street.*

Mameluke Yatagan and Andrea Ferrara.—*Mr William Scott, Edinburgh.*

A variety of Specimens of Rocks, Minerals, &c.

TABLE XII.

From Mr Rose.

Drawer of Quartz.

Drawer of Cryolite, Fluor Spar, &c.

Drawer of Ores of Copper.

Drawer of Chalcedony, Apophyllite, &c.

Drawer of Petrified Woods.

Drawer of Labrador Felspar, Lapis Lazuli, &c.

Two Groups of Minerals under Glass-shades.

Specimen of crystallized copper by galvanism.

From Mr K. Fraser, St Andrew Street Edinburgh.

Case of Beetles.

Mummy Hand from the Tomb of Ptolemy.

Impressions of Antique Seals.

Two Ancient Plans of Edinburgh.

Specimens of Wedgwood Porcelain.

Mummy Cat from Thebes in Egypt.

From the Society of Arts.

Specimens of Printing for the Blind.

By Mr Alston (with two Maps), Glasgow.
Mr Gall, Edinburgh.
Mr Lucas, Liverpool.

Arithmetic Board for the Blind.—*Blind Asylum.*

Specimens of Zinc manufacture.—*Mr Convener Clarke, George Street.*

Specimen of Ornamental Cork-Cutting, and Knife with which it was cut.—*Mr William Gardner, Cork-cutter, Leith.*

From Mr Alex. Campbell.

Specimen of Ornamental Cork-Cutting, and Knife with which it was cut.

Specimens of Cork-Cutting.

Seven Specimens of Writing Fluids.—*Mr Stephen, Lond.*

TABLE XIII.

Specimen of Copper-ore, from Craignure, Argyleshire. —*Presented by his Grace the Duke of Argyle.*

Jar from Pompeii.—*Mr Rose, Leith.*

Two Specimens of Bastenne Asphalte.—*Mr J. Annan, Lothian Road, and Canal Street, Perth.*

Specimens of Fossil Vertebræ, from the iron-stone mines at Shotts Iron-Works.—*Mr Robert Bald, M. E.*

Black Band from Airdrie.—*Mr Robert Bald, M. E.*

Numerous specimens of Ironstone and Iron Manufacture. —*Mr Baird, Shotts Iron-Works.*

Numerous specimens of Persian Ironstone, Iron, Limestone, and Sandstone.—*Mr Robert Bald, M. E.*

From Mr J. B. Gallie, High Street.

Specimens of Nickel Silver, in bar and plate.

Specimens of Block Tin and Antimony.

Plate of Copper.

From Mr Astley, Bonnington Chemical Work.

Specimens of crystallized and sublimed Sal Ammoniac.

Specimen of Carbonate of Magnesia.

Specimen of Crystallized Sulphur.—*Mr K. T. Kemp, University of Edinburgh.*

Specimen of Sulphate of Lime.—*Mr Wright, Goldbeater, New Street.*

From Mr Macfarlan, North Bridge.

Specimen of Hydriodate of Potassa.

Group of Crystals of Rochelle Salt.

Specimens of Crystals of Acetate of Lead.

Specimens of Iron-ore and other Minerals from the Vicinity of Alloa.—*Mr Mathie.*

Group of Crystals of Nitrate of Ammonia.

Numerous Specimens of Crystals prepared at the Assembly Rooms under the direction of the Committee.

From Dr D. B. Reid.

Specimens of Turnings and Clippings of Iron.

Specimen of Coral, deposited upon H. M. S. Edinburgh, in ten months after the copper had been thoroughly cleaned.

Specimen of D'Arcet's Gelatine Biscuit, manufactured at Paris, and used by the French soldiers at Algiers.

Specimen of Gelatine from Bones.

Specimen of Confectionary made with Gelatine.

Specimen of Bone Earth, after the extraction of the animal matter at the Hospital St Louis, Paris.

Specimens of Dry Rot.

Specimens of crystallized Bismuth.

Specimens of Rock Salt, from the mines of Cheshire.

Specimens of Nitre, purified from the rough nitre of India by Crystallization.

Specimen of crystallized Bichromate of Potassa.

Specimen of Acetate of Lead.

From Mr Lawrie, Joppa.

Specimens of Sulphate of Magnesia by slow Crystallization.

Specimen of Epsom Salts, from the Salt-Pans, Joppa; prepared from the drainings left on boiling down sea-water for common salt.

TABLE XIV.

Specimen of Calico Block Printing, representing the Interior of Roslin Chapel.—*Mr Wm. M'Alpin, 23 George Street.*

From Dr D. B. Reid.

A few Portraits, principally of Continental Chemists.

Drawings of the Alterations in the Ventilation of the House of Commons.

Sketches of the Alterations made in the House of Lords in the autumn of 1839.

Porous Cloth (for ventilation) used for covering the walls of the House of Lords, and painted in imitation of oak.

Porous Ventilating Cloth, used for Bar and Tables of House of Lords.

Specimen of Hair-cloth used in the Houses of Parliament for equalizing the air.

Gas-Meter, in glass case, with twelve different kinds of burners, by Mr Nimmo.—*Messrs P. and J. Nimmo, Bank Street.*

From Campsie Alum-Works, Glasgow.

2 Specimens of Alum-ore.

3 Specimens of Sulphate of Iron.

7 Specimens of Ferroprussiate of Potassa.

Improved Vapour Bath.—*Mr W. Syme, Howe Street, Edinburgh.*

Model of a Plate-Electrifying Machine.—*Mr J. Davis,* 64 *Prince's Street, Edinburgh.*

2 Safety Davy Lamps.—*Dr D. B. Reid.*

Safety Bank Lock.—*Messrs Brydon and Son. Edinburgh.*

Calico Manufacture.

2 Large and smaller Specimens of Crystallized Alum. —*Campsie Alum-Works, Glasgow.*

Crystallized Carbonate of Soda.—*Mr Taylor, Leith.*

Universal Sun-Dial and Compass.—*Mr J. Davis.*

Models of the great Diamonds.—*Mr J. Davis.*

From Messrs Lyon and Co., George Street.

Twelve Lithophanic or Porcelain Pictures, Dresden manufacture, mounted with coloured glass.

A fac-simile of the Lorn Brooch.

A Highland Dirk.

A Highland Horn.

A complete series of Brooches.

A Dressing-Case.

A Set of Chessmen, designed for the Edinburgh Chess Club, by Mr Crawfurd of Cartsburn.

TABLE XV.

Specimens of Damask and Diaper.—*Messrs Robert and George Birrel, manufacturers, Dunfermline.*

PASSAGE FROM LARGE ROOM INTO EAST SIDE ROOM.

From Messrs W. Cooper and Co., Patent-Glass Manufacturers, Picardy Place.—Manufactured by them.

View of the Bell Rock Lighthouse ;
View of the Fall of Babylon ; both stained on glass.

EAST SIDE ROOM.

TABLE XVI.

Model of a Suspension Bridge, erected over the Blackadder by Mr Robert Brown, architect.—*Mr R. Brown.*

Collection of Wheats, Flaxes, &c.—*Messrs P. Lawson and Son.*

This is considered the most complete collection that has hitherto been formed.

From Messrs Russell and Son, Kirkaldy.

Spreading Gil for preparing Flax.
Self-Acting Fluting Machine and Lathe.

TABLE XVII.

Antique Window of Stained Glass for Newbattle Abbey, by W. Cooper and Co.—*Messrs W. Cooper and Co.*

This is a style of work newly introduced into Scotland by them.

Plaiting Machine for making Flexible Gas-tubes, &c. &c. &c.—*Messrs J. Milne and Son, Edinburgh.*

Model of Clare Island, on west-coast of Ireland.—*Mr William Bald, Engineer, London.*

Model of Giant's Causeway.—*Messrs P. Lawson and Son.*

Five Specimens of Stone, dressed by Hunter's Patent Planing Machine—*Highland and Agricultural Society of Scotland.*

Model of a Self-Acting Railway Crossing.—*Mr John Meiklejohn.*

Stone Vase turned by Machinery, on the principle of Hunter's Patent.—*Highland and Agricultural Society.*

Model of the Isle of Eigg, west coast of Ireland.—*Mr William Bald, Civil Engineer, London.*

Working Model for separating and cleaning Grain.—*Messrs Joseph Smith and Son*, 219 *High Street.*

A Safety Letter-box for House or Office Doors.—*Mr J. Spence, Great King Street.*

TABLE XVIII.

Roving Gil for preparing Flax.—*Messrs Russell and Son, Kirkcaldy.*

Machine for manufacturing Hosiery.—*Mr P. Pollock.*

Working Comb Machine, and Specimens of the Progressive Manufacture of Combs.—*Messrs Blackhall and Scott, Canongate.*

Numerous Specimens of Horns from South America.—*Messrs Blackhall and Scott.*

Model of Hunter's Patent Stone Planing Machine.—*Mr Lindsay Carnegie.*

Working Model of a Condensing Engine.—*Mr P. Ritchie, Nicolson Street.*

Specimen of a small Printing Press.—*Mr P. Ritchie.*

Model of part of a Thrashing Machine, with Ainslie's improved shaker.—*Highland and Agricultural Society.*

Bone Mill.—*Professor Low.*

Condensing Steam-Engine.—*Professor Low.*

Model of a Centre Frame used for turning the arches of Hutcheson's Bridge, Glasgow.—*Messrs Robert Stevenson and Sons, Civil-Engineers.*

Apparatus for Cooking by Steam.—*Messrs George Callam and Co. Greenside Place.*

TABLE AT WINDOW.

From the Directors of Military Academy,—Captain Orr.

Model of a Fortification.

Model of a Field-Piece and Carriage, with Limber.

New Zealand Chief's Head, Tattooed.

Cavalry Sword used by one of the Scotch Greys at Waterloo.

Model of a Garrison Piece of Ordnance.

Cylindrical Rifle Shot.

Military and Engineering Drawings by the Pupils of the Academy.

CENTRAL SOUTH ROOM.

TABLE XIX.

Fram Messrs Geo. Nicholson and Co., George Street.

Specimens of Imitation Oak.
Imitation of Red Verona Marble.

From Messrs P. Lawson and Son's Agricultural Museum, Edinburgh.

Fruit of Double Cocoa Nut (Ledoicea Sechellarum).
Seed pod of Acacia scandens.
Collection of 40 specimens of Wood.
Foreign Seed pods, Bottle Gourd, &c.
Six specimens of rare Pine Cones.
Specimen of Ropes from the American Aloe, French manufacture.
Potatoes pressed into cakes, for winter use, for cattle.
Mahogany Veneers, 23 cut out of the inch, with a circular saw.—*Mr* ?

From Mr H. Laing, Elder Street.

Impression in Sulphur from Ancient Seals.
Glass Casts for Brooches, &c.

A Sketch from Whinstone.—*Mr Robert W. Hume, lithographer, Leith.*

Specimens of Wafers and Sealing-wax.—*Messrs George Waterston and Son*, 14 *Hanover Street.*
Enamelled Card-case.—*Mrs Cooper, Picardy Place.*
Work Table Top of Paint, in imitation of Pebble.—*Mr A. Smith*, 15 *Saunder's Street, Edinburgh.*
Specimens of Emblematic Bookbinding, in a new style, with die.—*Mr John Gray*, 7 *Earthen Mound.*

From Messrs Robt. Sclater and Son, South Bridge.

A Frame with sundry Medals.
A Frame with Coats-of-Arms for Carriages and Harness.
Two Brass Blocks for Bookbinders on a new principle, with impressions from do.
Brass Block, Figures of Nicholas Nickleby and his uncle Ralph; Gold impression from do.

Specimens of Wood-Engravings.

A Wood Block in progress.

A pair of Mould Dies.

A Card of Military, Livery, and Club Buttons.

Impressions of Wood Blocks of Machinery, by Mr Alexander Sclater.

Two Drawings on Wood, by Mr James Newlands.

3 Specimens of Daguerreotype, being Views taken in Edinburgh by Mr Astley of the Bonnington Chemical Works.—*Mr Astley.*

Specimen of Daguerreotype from Paris—*Signior Rampini, Gloucester Place.*

Tea-Chest of Rannoch Birch-wood.—*Mr G. T. Graham, Gilmore Place.*

From Mr Tho. Mackenzie.

Specimen of carved Cocoa Nuts.

Specimen of Peebles' Engine Turning on Wood, &c.

Apparatus for Nailing Wire for Filigree work.

Mounted Snuff-horn.

Silver flower in ornamental Cocoa Nut.

Specimens of Highland Snuff-horns, &c. in a glass case.

Silver Cup, won from the London by the Edinburgh Chess Club, in their match of Five Games, begun 23d of April 1824, and ended 31st of July 1828.—*Edinburgh Chess Club.*

Model of the Lorn Brooch by Lyon.—*Mr Lyon, George Street.*

16 Specimens of Plants and Fruits in glass jars, including Bread-fruit Tree, Banana, Plantain, Coffee, Papaw, Mango, Lime, Rice, &c.—*Dr J. H. Balfour.*

From Mr E. M. Clarke, London.

Valuable Selenite Window, the polarizing structure shewn by Nicol's Eye-piece.

Lieut. Le Count's, R. N., Mirror Polariscope, with dispersing plate.

Selenite Window, small size, shewn by crown glass eye-piece.

Goddard's Table Polariscope, by reflection.

Goddard's Model for explaining the Mechanical Arrangement of the Hydro-oxygen Polariscope.

Goddard's Model of the Polarizing and Analyzing action of a pair of Tourmalin Plates.

Goddard's Model of a Romb of Iceland Spar, shewing its double refracting structure.

Goddard's Model of a Ray of ordinary Light.

Professor Wheatstone's Stereoscope, with 6 sets of Diagrams for illustrating Single Vision.

Collection of Transverse and Longitudinal Sections of Wood for the Microscope.

Professor Powell's Apparatus for exhibiting Plain Circular, and Elliptical Vibrations.

Achromatic Pocket Telescope, peculiarly mounted, by Bardeu of Paris.

Collection of Microscopic objects prepared in Canada Balsam.

Specimens of Fish Scales in Flint.

Figures of Unanealed Glass, for shewing Coloured Bands by Polarised Light.

A small Work-Box of Glass.—*Miss Dalyell.*

Polarizing Microscope, with two of Nicol's prisms.—*Mr A. Bryson, Edinburgh.*

Large Musical Box.—*Mr Lyon, George Street.*

Imitation of different Woods.—*Mr T. Graham.*

Plate-Glass giving false lines.—*Dr D. B. Reid.*

Cast of Hand and Lizard from nature.—*Sir John Robison, Edinburgh.*

Lot of Indian Curiosities.—*J. W. Paterson, Turner, Thistle Street.*

Two Chinese Fans.—*Mr Castle.*

A Lithograph on Wood.—*Messrs J. Milne and Son, Edin.*

Coronet of a Peruvian Princess.—*Mrs Cooper.*

Fan made from the Cocoa de Mer Tree, the only manufacture of the Island of St Ann (Seychelles).—*Capt. Sinclair, George Street.*

Paper Folder and Desk Seal of Ivory.—*Mr Robert Bald, Mining Engineer.*

A Glass Ornament from Girgenti.—*Sir J. G. Dalyell.*

Carving in Ivory, from Turin.—*Sir J. G. Dalyell.*

Ladies' Bands and Cuffs ornamented with glass beads, Indian Manufacture.—*Mr Glass.*

Four Swords, Improved Gun, and Pocket Pistol.—*The Edinburgh Cloth Company.*

From Mr W. Whitehead, Prince's Street.

Two pairs of India Rubber Shoes.
Two pieces of Sheet India Rubber.

Artificial Leg.—*Mr Robert Fortune, Nicolson Street.*
Shoe-Lasts made by Machinery.—*Messrs R. and W. Russell, Denny-Loanhead.*
Boots for correcting Distortions of the Legs.—*Mr Robert Fortune.*
Nicol's Prism of Iceland Spar.—*Mr Sanderson, Edinburgh.*
A Collection of French and Dutch Wooden Shoes.—*Messrs P. Lawson and Son's Museum.*

Collection of Shoes of different nations, and of different periods.
British Manufacture of Shoes from New Zealand Flax, made at Rugeley, Staffordshire.—*Messrs P. Lawson and Son.*
Pillar, Imitation Peterhead Granite.—*Messrs George Nicholson and Co., George Street.*
Set of Chinese Chessmen beautifully carved in Ivory.—*Mr Crawford.*
Chess-Board, beautifully painted, by a Lady.

From Mr Dowie, Frederick Street.

A pair of improved Boots.
A pair of Ladies' Boots.
A pair of Ladies' Shoes.

A pair of Shoes from the Himmalaya Mountains.—*Mr Robertson, Assembly Rooms.*

TABLE XX.

Model of the Royal Institution, Mound.—*From the Board of Trustees.*

Preparations from the Royal College of Surgeons.

Skull and Horns of Indian Buffalo. Male.
Skull and Horns of Indian Buffalo. Female.
Skull of Hippopotamus.
Skull of Walrus.
Skull of Walrus.
Skull of Babyrussa.

Skull of Wild Boar.
Skull of Indian Boar.
Skull of Lion.
Skull of Tiger.
Skull of Polar Bear.
Skull of Dolphin.
Skull of Dolphin.
Skull of Turtle.
Skull of Gavial.
Skull of Hyena.
Skull of a European.
Skull of an American Indian.
Skull of an Esquimaux.
Skull of a Negro.
Skull of a Chenook.
Skull of a Roman, found in Kent.
Skull of an Idiot.
Skull with three sabre cuts. Battle of the Pyramids.
Skull perforated by a ball. Waterloo.
Skull-cap with sword-cuts. Waterloo.
Skull perforated by a ball. Culloden.
Bones of the Leg of a French soldier; shattered. Waterloo.
Bones of the arm of a sailor, shattered at Granton Pier.
Skeleton of a Lioness.
Skeleton of a Baboon.
Skeleton of Balearic Crane.
Skeleton of Albatross.
Skeleton of Swan.
Skeleton of Rattlesnake.
Stuffed Tortoise.
Stuffed Sawfish.
Jaws of a Shark.
Teredo navalis.
Barnacles adhering to timber.
Portion of Elephant's Skin.
Arteries of the Hand.
Arteries of the Foot.
Section of Human Heart.
Injected Human Heart.
Valves of the Aorta of a Shark.
Portion of Sailor's Skin.

Human Teeth.

Double set of Human Teeth.

Arms of the Royal College of Surgeons.—*Mr W. H. Blackie*, 162 *High Street.*

Specimen of Heulandite from Iceland.

From Mr Campbell, Assistant Curator of Royal College of Surgeons.

Section of the left Eye four times magnified.

Ram's Head formed into a Snuff-box.

Model of Bones of the Ear.

Model of Elephant's Grinders.

Nutmeg.

From Mr John F. Macfarlan, Chemist to the Queen, 17 *North Bridge.*

(In Glass Case.)

Specimens illustrative of the manufacture of Morphia and its Salts from Opium.

- Specimens of Turkey, Egyptian, and Persian Opium.
- A Cake of Impure Muriate of Morphia, first stage.
- Basin of Liquid or Mother Water, expressed from the above.
- Morphia in its pure state.
- Muriate of Morphia, in powder.
- Acetate of Morphia.
- Bi-Meconate of Morphia, being the salt existing in Opium.
- Muriate of Morphia Crystals.
- Sulphate of Morphia Crystals.

Portable Laboratory and Chemical Test-box, exhibiting the materials and apparatus, as recommended by Dr D. B. Reid.

Brick from the Ruins of Babylon.—*Scottish Antiquarian Society.*

Two Columns of Imitation Yellow Antique Marble Scagliola.—*Mr H. Wadman.*

From the Royal Society.

Fine Specimen of Spongia Patera.

Door of Book-Press which belonged to Sir Isaac Newton.

From Mr Thomas Johnstone, Old Fishmarket.

Foot of a Polar Bear, shot by Mr Charles Booth of the Prince of Orange whale-ship, 8th September 1834.
Battle-Axe of a New Zealand Chief.

From Dr Parnell.

24 Specimens of Fishes of the Firth of Forth.
5 Shells.

Stuffed Fox and Pheasant.—*Scottish Institution for the Education of Young Ladies.*
Artificial Orang-Outang.—*Royal Society.*

From Mr Carfrae.

Glass Case containing Black Hare, Grouse and Young.
Glass Case of finely preserved Butterflies.
Stuffed Porpoise.—*Scottish Institution for the Education of Young Ladies.*
Specimen of Fossil Wood.—*Mr Rose.*
Congeries of Rootlets of the Ash, formed in a water-pipe. —*Mr G. M. Kemp.*

From Mr Thomas Fenton, George Street, Edinburgh.

A Stuffed Peacock.
Glass-Case with Humming Birds.
Glass-Case with Parroquets.
Two Specimens of Stuffed Birds.
Small Glass-Case with Bengal Falcon and Prey.

From Mr Macgillivray, Conservator of the Museum of the Royal College of Surgeons.

A Peacock.
Jungle Cock and Hen. Original of Domestic Poultry.
Sonnerat's Jungle Cock and Hen.
Peregrine Falcons, shot on the Pentland Hills.
Digestive Organs of Sea Eagle.
Digestive Organs of Gannet.
Two Glass Jars, shewing an improvement for preventing Evaporation.

From the Scottish Institution.

Specimen of the Lace Tree.
Specimen of Pod Cotton Tree.

TABLE XXI.

From Mr Lees' Lecture Rooms.

An Orrery.
Whirling-Table, with Illustrative Apparatus.
Apparatus for shewing the Expansion of Metals.
Archimedes' Water-Screw.
Inclined Plane and Carriage.
The Endless Screw.
Convex Lenses.
Model of a Wedge.
Apparatus for illustrating the Aberration of Light.
Systems of Pulleys.
Convex and Concave Mirrors.
Model of Wheel and Axle.
Model of Crown-Wheel Scapement.
Model of Anchor Scapement.
Models of Screws.
Model of De la Hire's Pump.
Instrument for shewing Fluid Level.
Divided Beam for illustrating the Lever.
Large Wooden Model for illustrating the Crank and Eccentric motions.
Sectional Illustrations of the Locomotive and parallel motions.
Large Working Model of a Condensing Steam-Engine.
Syphon and Glass Jar.
Table Top, from Mr Lees' Practical Rooms.
Models of Levers.

TABLE XXII.

Bows and Arrows.—*Mr Muir, Archers' Hall.*
Esquimaux Bow and Arrow, with Pouch; a specimen of the art in its rudest state, and yet displaying great ingenuity.
Fire-Screen painted on Velvet.—*Mrs Cooper, Picardy Place.*
Glass-case containing Chemical Apparatus, and Models of

Crystallization of Minerals, formed in Pipe-clay.—*From Mr Griffin, Manufacturer of Chemical Apparatus, Glasgow.*

TABLE XXIII.

Glass-case furnished with Antiques, the property of *Mr Robert Bald, Engineer.*

From Mr Trevelyan.

A Lizard cast in Bronze from Nature, made in Rome.
A Portrait cut in Ivory by Mr W. Ewing, Rome.
Copy from Guido's Aurora, cut in shell by Pestrini, Rome.—*Lieut.-Col. Robertson Macdonald.*
An ancient Carving in Ivory of Budhu, found in Ceylon.

From the Antiquarian Society.

Two pair of Ancient Scotch Brooches.
A pair of Thumbikins.
The Claremont Agate Battle-axe or Celt.—*Mr Nairne, Edinburgh.*
Grand Pianoforte.—*Professor Thomson.*

WALLS.

Royal Ensign from Edinburgh Castle.

From Mr D. R. Hay, Decorative Painter to the Queen, George Street, Edinburgh.

Two sets of Diagrams illustrative of the Laws of Harmonious Colouring.
Decorative design in the Pompeian style, full size.
Decorative design in the style of an Illuminated Manuscript.
Decorative design for a Panel in the Moorish style, full size.
Decorative design in the style of Watteau.
Specimen of a New Style of Decoration for the Walls of a Drawing-Room.
Design for the Panel of a Room in the Italian style of ornament.
Full-sized Border for a Saloon in the Italian style of Arabesque ornament.
Four Ornamental Designs, composed from the Common Dock, Mouse Pea, Water Geranium, and other weeds,

illustrative of the statement made by D. R. Hay before a Committee of the House of Commons, namely, that the best mode of improving the taste of the Working Classes was to enable them to make use of such materials. See Report.

Various specimens of D. R. Hay's Patent Imitation of Damask, Borders for Rooms, Imitations of Marbles and Woods, Paintings on Silk, Pedestals, Picture Frames, &c.

Fifteen of the above specimens have, within the last four years, obtained at each of the Exhibitions of the Honourable the Board of Trustees, the highest premium awarded for such works.

IN RECESS UNDER ORCHESTRA.

From Mr T. Graham, 1 Melville Place.

Four Stands in the Chinese and Arabesque styles.
Two do. imitations of Rosewood and Oak, &c.

Japanned Table.—*Messrs Ballantine and Allan, Hanover Street.*

Bruce's Patent Biscuit Machine.—*Messrs James Slight and Co. Leith Walk.*

WINDOWS.

From Messrs Ballantine and Allan, Hanover Street.

Specimens of French Pannelling.
Beautiful Japanned Fancy Table.
Drawing Fire-screen, in the style of Watteau, executed by Mr Mackay.—*Dr Malcolm.*
Three specimens of imitation carved oak.—*Messrs George Nicholson and Company, George Street.*

From Mrs Cooper, Picardy Place.

Enamelled Japanned Tray, done by Mrs Cooper.
Fire-screen painted on Velvet do. do.
Two Frames with Impressions of Seals.—*Mr Butters, George Street.*
Victoria Tray.—*Mr ?*
Transfiguration, &c.—*Messrs Ballantine and Allan.*
Specimens of Victoria Trays.—*Messrs Anderson, Nicolson Street.*

Coats of Arms.—*Messrs R. Sclater and Son, South Bridge.*
Two specimens of Stained Glass, Lord Jeffrey, &c.—*W. Cooper and Co. Picardy Place.*
Novel Miniature Conservatory stocked with plants, on Mr Ward's principle.—*Mr D. Ellis.*

For a Description of this Miniature Conservatory see Addenda to this Catalogue.

From Messrs Ballantyne and Allan, Hanover Street.
Fac-simile of the signature to the Union of Scotland with England.
Patterns of Stained Glass.
India Rubber Tree.—*Mr M'Nab, Experimental Gardens.*

WALL BETWEEN WINDOWS

Twenty Photogenic Drawings, made by H. F. Talbot, Esq.—*Mr Trevelyan.*

From Antiquarian Society.

Plates given by Belzoni of the Tombs of the Kings of Thebes.
Fac-simile des Monumens coloriés de l'Egypte, d'après le Tableau D. C. L. F. Panckoucki.
View of the Old and New London Bridges.
Acta Parl. Mariæ MDXLII.

Specimen of Beak of Saw Fish and its young.—*Royal Society.*
Model of a vertical Paddle Wheel.—*Mr A. J. Morton.*
Two specimens of Ornamental Picture Frames.—*Mr D. R. Hay, George Street.*
Specimen of Waterproof Furniture Cloth.

WEST SIDE-ROOM.

From Messrs W. Cooper and Co. and Manufactured by them.

Stained Glass; specimens of Antique Work.
Enamelled ornamented Sheets, 40 by 30 inches, and Grecian and Elizabethian designs, all patented.—Her Majesty Queen Victoria, Lord Brougham, &c.

From Craigs Brothers.

A Jacquard Loom in operation.
6 pieces of Vesting.

Double Damask, 3½ yards square, for Round Tables, manufactured by Mr W. Kinnis, Dunfermline—*Messrs P. and R. Wright, Edinburgh.*

From Sir J. G. Dalyell.

Rose Turning Engine.
Specimens of Rose, and other Turnings, executed on the above Engine by Sir J. G. Dalyell.

Turning Lathe, with Slide-rest and Drilling Apparatus, in operation, by Mr Jamieson, Teacher of Turning, and Assistant to Mr Lees' Practical Class.
Collection of Grasses.—*Messrs P. Lawson and Son.*
Machine for Winding Twine.—*Mr Newlands.*
Map of the World.—*Mr Thomas Deacon.*

TABLE XXIV.

From Sir John Robison.

A few useful Tools, adapted to the Turning Lathe.
A specimen of delicate Turning.
Numerous Specimens of Paper from India.

A Self-adjusting Double Driver for a Turning Lathe.—*Mr William Greig, smith, Charlotte Lane.*
Double Damask, for Round Tables.—*Messrs P. and R. Wright.*
Two Ornamental Gilt Frames.—*Mr Galli.*

TABLE XXV.

Paper-Making.—Materials from Messrs Alex. Cowan and Sons.

Foreign and British Rags, used for the manufacture of fine writing paper.
The same after being boiled in alkali.
The same after being washed and reduced to half stuff in the rag-engine.

The same bleached.
The same reduced to fine pulp, and mixed with a small portion of colouring matter.
Matter used for colouring paper.
Size, or Gelatine, in which paper is dipped to make it bear ink.
Blue Paper as it comes from the surface of the wire-cloth of the paper-machine.
White Paper do. do. do.
Paper after it is soaked in size.
Paper ready for use.
Coarse Blue Rags used in the manufacture of inferior printing paper.
The same boiled in alkali.
Coarse Blue and Grey Rags reduced to half stuff in the rag-engine.
The same bleached.
Printing Paper as from the paper-machine.
Working Model of a Rag-Engine, with cover and steel roller and plate.
Working Model of a Paper Vat.
A Felt Press.
Models of Moulds for making paper by the hand.
Apparatus shewing the strength of paper used for Scotch bank-notes.
Waterproof Fabrics used for Cart Covers.—*Mr J. Singleton, Lincoln.*

TABLE XXVI.

Improved Smoke Jack.—*Messrs Bell and Son, Greenside.*
Green's Patent Portable Oven.—*Mr Betts, Leith.*
Self-heating Bath.—*Mr Anderson, Nicolson Street.*
Improved Shower Bath.—*Mr James Rogers,* 8 *Queensferry Street.*

From Mr Griffin, Manufacturer of Chemical Apparatus, Glasgow, &c.

A large collection of Improved Chemical Apparatus, with a written Catalogue and Prices.

POLARISCOPE ROOM (GROUND FLOOR).

This apartment has been arranged expressly for Mr CLARKE'S illustrations with the Polariscope and Hydro-Oxygen Microscope. From five to eight hundred persons at a time have been accommodated in it. It is ventilated on the same principles as the House of Lords, but, instead of a chimney, a fanner has been employed by Dr D. B. Reid for removing the foul air. The fanner is applied in the manner adopted by Dr Reid in his experiments on the ventilation of the Navy.

Stained Glass Window—Christ blessing Children.—*Messrs W. Cooper and Co.*

BACK ROOM (GROUND FLOOR).

Pottery Manufacture in operation.

Glass-blowing in operation.

Electro-Magnetic Machine, made by E. M. Clarke of London.—*His Grace the Duke of Roxburghe.*

And a variety of other Working Models.

Basketmaking in operation, by workmen from the Blind Asylum, Edinburgh.

ARTICLES RECENTLY RECEIVED.

North American Indian Dress and Trowsers worn by a Chief of the Osinaboinan Tribe.—*Mr John Veitch, Buccleuch Place.*

A Table Cover.—*Manufactured by Messrs D. Dewar and Co. Dunfermline.*

Deer's Head.—*Mr John Dewar, Dunfermline.*

From Mr S. Smealls, Plumber, Dunfermline.

Zinc Cottage Window.

—— Veranda.

—— Couples.

—— Fan Light.

—— Window Blind.

Orrery and Lamp.—*Mr Moon, Vennel.*

A Lady's Sewed Cape.—*Mrs Wright,* 28 *Castle Street.*

ADDENDA.

ADDENDA.

DESCRIPTION OF MR PONTON'S GALVANIC TELEGRAPH.

(Catalogue, p. 29.)

EDINBURGH, 50 *Hanover Street.*

Having found it almost impossible, in the crowded state of the rooms, to give any satisfactory explanation of the principles upon which the Galvanic Telegraph is constructed, Mr Ponton at my request drew up the following description. At each quarter of an hour, a few signals will be transmitted from the station at the west end of the great room to the other station at its eastern extremity. The first of these will be the ringing of a gong, as described at p. 29.

JOHN DUNN.

If a magnetised needle be freely suspended by a fibre of untwisted silk, it will place itself in a direction nearly due north and south; and it will return with a certain force to that direction, if it be drawn aside from it. When such a needle is suspended within a coil of copper wire or ribbon, the direction of the length of the coil coinciding with that of the needle, and if one end of the coil be connected by a wire of any length with a copper plate, while the other end is connected by a similar wire with a zinc plate, so soon as the copper and zinc plates are immersed together into a diluted acid, the needle in the coil will change its direction, and place itself across the coil. The needle will then be more or less east and west, instead of north and south. The instant that the zinc and copper plates are taken out of the acid, the needle returns to its original position. This deviation of the magnetic needle is caused by the copper wire and coil being thrown into a peculiar state by the electricity excited when the copper and zinc plates are immersed in the acid. The species of electricity thus produced is known by the name of Galvanism; and the copper wire and coil which unites the zinc and copper plate may be said to be galvanized.

The greater the extent to which the wire and coil is thus galvanized, the greater will be the extent to which the needle placed in the coil will deviate from its natural position. The deviation of the needle is therefore used as a measure of the amount of galvanism; and the needle and coil thus constitute what is called a Galvanometer.

It is this little instrument, the galvanometer, or magnetic needle suspended in a copper coil, which, in connection with a copper and zinc plate immersed in weak acid, and called a galvanic battery, forms the principal element in the construction of every galvanic telegraph. As has been already said, the wires by which the coil of the galvanometer is connected with the galvanic battery may be of any length, and as each wire becomes galvanized throughout its whole length at the same instant, there is no appreciable interval of time between the connection being made at the one end, and the needle being affected at the other, at least for all terrestrial distances. The effect of distance is not to diminish perceptibly the rapidity with which the effect on the needle is produced, but merely to lessen the quantity of that effect. This latter effect of increased distance, however, may be compensated by increasing the thickness of the wire, which forms the medium of communication, or by making the galvanometer more sensitive, and the battery more powerful. By such means this peculiar influence could be made sensible at the greatest terrestrial distances.

The most obvious method of applying this principle towards the construc-

tion of a telegraph, by which intelligence may be transmitted from one distant point to another, is that suggested by Mr William Alexander of this city. In his telegraph there is a galvanometer and a wire for every letter or signal that is to be transmitted, with one wire more for completing the connection in the returning direction. Thus, in order to produce 42 signals, there would be required 42 galvanometers and 43 lengths of wire. This is a serious objection, the lengths of wire on considerable distances being by far the most expensive part of the apparatus.

Nearly contemporaneous with Mr Alexander's, was Mr Wheatstone's invention, by which fifteen signals were produced by means of five wires. This number of signals, however, was insufficient, and there were objections to the mode in which the signals were indicated by the galvanometers.

Various modifications of the instrument have since been suggested, and the instrument shewn at the exhibition is one of these. The peculiarity of this instrument consists in its requiring only three wires to be stretched between the two stations, by means of which forty-two signals are transmitted, and an alarm given; the method of producing which is also believed to be peculiar. This may be first explained.

The galvanometer by which the alarm is given, is distinct from those by which the other signals are produced, and is placed in the circuit of one of the wires. It consists of two coils of copper ribbon attached together and placed parallel to each other, with a space between them. A straw is suspended by a silk fibre, and hangs in the space between the two coils. Two needles are attached to the bottom of the straw, and so situated as to be within the coils. Through a hole in the straw, situated above the coils, is passed a small glass tube, having a platinum wire fastened to one end of it, terminating in a small spiral coil. The glass tube and its wire lie across the direction of the needle. Under the end of the platinum wire is placed a spirit lamp, with a small flame, by means of which the platinum coil is maintained at a white heat. When the needle deviates by means of the galvanic influence transmitted from the other end of the telegraph, it carries round with it the hot platinum coil, which meets a fine cotton thread stretched in its course. This thread is attached to a cord, by which a pendulum is drawn aside from a bell or gong, upon which it tends to fall. The moment that the hot wire touches the thread, it burns it, and the pendulum, being freed, strikes the bell or gong, and thus the attention of the person at the telegraph is called to the signal that is made.

In producing the other signals, another principle is brought into play. If two wires, A and B, be connected, A with the copper, and B with the zinc

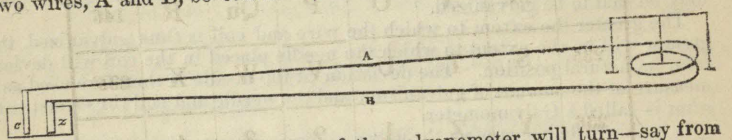
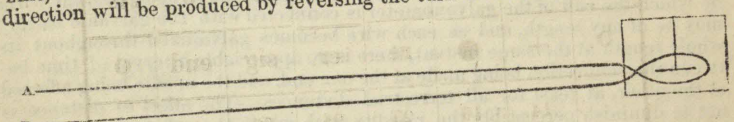


plate of the battery, the needle of the galvanometer will turn—say from right to left; but if B be now connected with the copper, and A with the zinc, the needle will turn in the opposite direction. The same change of direction will be produced by reversing the turn of the coil, thus :—



It is impossible, however, to use, for telegraphic purposes, a needle which turns both ways, its action being too unsteady. Each needle must have a rest to prevent it from turning except in one direction, and to keep it steady while not affected by the galvanism. There are, therefore, two galvanometers attached to each wire at either extremity; in all, four on each wire. When the wire is brought into connection with the copper plate, one needle deviates at each extremity, the other being pressed against its rest. When

the same wire is connected with the zinc plate, those needles which moved before remain steady, while those which were at rest before are turned round.

There are thus six galvanometers at each end of the telegraph, which are numbered 1, 2, 3, 4, 5, 6. As it is necessary that one wire should be connected with the zinc, while the other is connected with the copper plate, it follows, that there must always be at least two of the galvanometers affected at each extremity. There may, however, be *three* affected at once, by connecting two of the wires with the copper plate, and one with the zinc; or *vice versa*, two with the zinc, and one with the copper. Thus, if we suppose the galvanometers 1, 3, 5, to be affected when the wires to which they are respectively attached are connected, and the galvanometers, 2, 4, 6, when the same wires are connected with the zinc, there must always be turned up an odd and even number together, or one odd and two even, or one even and two odd. Hence the possible combinations are—

Of two, 14, 16, 23, 25, 36, 45.
Of three, 136, 145, 146, 235, 236, 245.

There are, accordingly, at one end of the telegraph, twelve keys having these numbers marked upon them.

As twelve signals, however, are insufficient, it is necessary to combine them, using the signals of three numbers to qualify those of two. Thus we have six signals consisting of the double numbers used alone, and we have the same six used in conjunction with each of the triple numbers, which gives us forty-two signals in all. We have thus the twenty-six letters, ten numerals, a + for the end of a word, ● for the end of a sentence, *re* when the signal is to be repeated, *er* when an error has been committed, *sig* when a reference is to be made to the signal-book, and *end* when the communication is finished.

The following table exhibits the arrangement:—

	14	16	23	25	36	45	
136	A	B	C	D	E	F	136
145	G	H	I	J	K	L	145
146	M	N	O	P	Qu	R	146
235	S	T	U	V	W	X	235
236	Y	Z	1	2	3	4	236
245	5	6	7	8	9	0	245
0	+	●	re	er	sig	end	0
	14	16	23	25	36	45	

In order to read the signals, then, all that is required is to have the above table before us. When the galvanometers shew 136, the eye is turned to the first line, and if the next signal given be 25, we know that the letter D is to be read.

To facilitate the communication, there is a full key board, with the letters

figures, &c., marked on the keys. Behind each of the marked keys, is a blank one, placed in the same manner as the black keys in a piano. In order to produce any letter, we must first touch the key marked with that letter, by which operation three galvanometers are affected, and then the blank key behind must be touched so as to affect the two galvanometers appropriate to the letter. The galvanometers bearing the same numbers are affected at both ends of the telegraph at the same instant.

To prevent mistakes, the signals are returned at such intervals as may be agreed on, either letter by letter, or word by word, the same wires being used to return as to transmit the signal. In the model exhibited, there is a reading board at one extremity, to render the effects more palpable to the spectators. There is a small hole, about 1½ inch square, in front of the letter board, the whole of which is concealed, except what appears at this small opening. The characters are half an inch in length, and appear successively one by one at the opening. This takes place, not when the signal is first transmitted, but in the act of its being returned. The keys by which the signals are returned work at the same time a system of levers, by which the letter-board has both a vertical and a horizontal movement communicated to it, while it is returned to its place by counterpoises. This part of the apparatus is only necessary for displaying the signals to bystanders, and not for the actual reading of the signals, which may be as readily done by means of the foregoing table. The mechanism by which the letter-board is moved is very simple, but cannot be well shewn in a diagram.

The wires are brought into connection with the plates of the battery by means of small connecting pieces attached to the keys, and dipping into little wooden cups containing mercury, which produces nearly the same effect as if the wires were for the moment soldered together.

The batteries are so constructed as to maintain their power for days; and the galvanic action does not take place, except for the short time that any key is touched.

The farther improvement of this instrument, and a more familiar acquaintance with its use, may ultimately lead to connections being made between the most distant countries in the world for the transmission of intelligence, and posterity may perhaps witness the receipt of news from India, by means of a galvanic telegraph, in as many minutes, as there are days now occupied in the conveyance of a dispatch.

MR ELLIS'S PLANT CASE, OR PORTABLE CONSERVATORY.

(Catalogue, p. 53.)

In this Conservatory, the water, with which the soil is at first copiously supplied, does not escape, but is alternately absorbed and exhaled by the plants, and suffers very little waste; whilst, by exposing the case to sunshine, the upper part of the air, which may have been consumed by the respiration of the plants, is again restored by the joint agency of the plants and light. By these opposite actions, the same air is kept in a state sufficiently pure to support vegetable growth for long periods of time.

Mr Ward of Wellclose Square, London, the inventor of this novel method, has cultivated various kinds of delicate ferns and alpine plants, when confined in these cases, which could not otherwise be made to vegetate in the smoky atmosphere where he resides. And under his direction, plants have been transported, in similar cases, to and from the most distant parts of the world in a state of perfect health and vigour, without the cases being once opened for the purpose of the plants receiving either fresh air or water. The case now exhibited is designed for the drawing-room, and, of course, differs in construction and costliness of material from those employed in transporting plants from one country to another. It was constructed under the directions of Mr James M'Nab, of the Horticultural Society's Garden, Inverleith, and fitted up and planted by him in May 1838 for Daniel Ellis, Esq. Inverleith Row. (For a fuller description, see *Loudon's Gardeners' Magazine for September* 1839.)

PRINTED BY NEILL AND CO.

SCOTCH MANUFACTURES.

ROBERT WILSON,

LINEN-DRAPER IN ORDINARY TO THE QUEEN,

Manufacturer of Linens, Sheetings, Towellings, &c.

THE Public are respectfully informed, that they have an opportunity of inspecting, at

ROBERT WILSON'S

FAMILY LINEN WAREHOUSE,

4 GEORGE STREET, EDINBURGH.

The most beautiful specimens of Scotch manufacture in

TABLE LINEN.

The Stock of this article, comprising all the newest and most elegant Patterns, and of qualities from the coarsest Diaper to the very finest double Damask.

R. W. also solicits attention to the following Articles of his own Manufacture, viz. SHIRTING LINENS—PLAIN and TWEELED SHEETINGS,—TOWELLINGS, &c. made of the richest Dutch Flax Yarns, and of the most durable fabrics.

R. WILSON'S Stock of Goods in general is most extensive, and (besides those of his own manufacture) selected with the care and skill which his long experience in the trade enables him to do—consists of

TABLE LINENS.

Scotch Double Damask Table Cloths, in great variety.
Single Damask and Diaper Table Cloths, all sizes.
Breakfast, Tea, and Dinner Napkins, a large choice either with or without Table Cloths to suit.
Damask and Diapers, in the web, of various widths, for Hall and Kitchen Table Cloths.
Elegant Damask Table Covers, in a variety of colours.
Wine Rubbers or Doileys, in great variety.
Double Damask, ditto.

TOWELLINGS.

Superior Diaper, and Huckaback, for Bed-room Towels.
Fine Diapers and Clouting for Children's use.
Kitchen Towellings, and Glass Cloths.
Cotton Diapers.

SHIRTINGS.

Scotch Hollands, yard-wide, at all prices.
Scotch Hollands, very strong, for Night Shirts.
Undressed Irish Linens, 7-8ths and 4-4ths wide.
French Cambrics and Longlawns.

[*Turn.*

SHIRTINGS,—continued.

French Cambric Handkerchiefs.
Irish ditto ditto.
Water-twist Shirtings and Calicoes.
Manchester Longcloths, Tweeled and Plain.

SHEETINGS.

Plain and Tweeled Scotch and Irish Sheetings, of all widths.
Imitation Russia Sheetings, for Upper Servants' and Nursery Beds.
Strong Plain and Tweeled Sheetings, for Servants' Beds.
Plain and Tweeled Cotton Sheetings.
Scotch Hollands, 9-8ths wide, for Bolster and Pillow Cases.

WINDOW BLIND HOLLANDS.

Brown and Bleached Linen, all widths.
Bleached and Buff Cotton, ditto.
Cords and Tassels for ditto, various colours.

BLANKETS.

Bath and Witney Blankets, all sizes.
Scotch Blankets, for Servants' Beds.
Binding Blanketing, and Ironing ditto.

BED QUILTS, &c.

Marseille Quilts, and Damask Bed-Covers.
White and Coloured Counterpanes.
Crib Quilts, Toilet Covers and Quiltings.
Coverlets and Rugs, for Servants' Beds.

BED TICKS.

Linen and Cotton Bed Ticks, and Striped Holland for Mattresses.
White Pillow Fustians.
Upholsterers' Canvass and Hessians.
Brown Linen for Furniture Slips, &c.
Damask Crumb Cloths, various Widths.
Brown and Bleached Linen Drills, and French Jane.

FLANNELS.

Real Welsh and Lancashire Flannels, in great variety.
Saxony and Gauze ditto.
9-8ths, 5-4ths, and 6-4ths wide, ditto.

MUSLINS.

Cambric, Medium, and Jaconet Muslins.
Muslinett, Corded, and Checked, ditto.
Hair Cord Dimities, Janes, and Sattins.
Imitation Cambrics, and Handkerchiefs.
Bishop's Lawn, Book Muslins, and Handkerchiefs.
Muslins for Window Curtains, Striped, Checked, and Figured, in great variety.

☞ LADIES' CHEMISES and GENTLEMEN'S SHIRTS, made to Pattern, in the best manner; also BED and TABLE LINEN, made upon the Shortest Notice.

COUNTRY ORDERS PUNCTUALLY EXECUTED.

*** *Lowest Prices mentioned at once, in conformity to those principles on which the Business has been so long conducted.*

NEW AND INTERESTING GEOGRAPHICAL WORKS,

PUBLISHED AND SOLD BY

W. & A. K. JOHNSTON,

ENGRAVERS, PRINTERS, AND PUBLISHERS,

4. ST ANDREW'S SQUARE, EDINBURGH.

ATLASES.

THE EDINBURGH CABINET ATLAS OF THE WORLD, comprised in 50 Plates, with Index and Tables of Statistics, by G. H. SMITH, Esq. F.R.G.S., constructed from the latest and most authentic sources, and adapted, by minute research and careful selection of names, to accompany and explain every popular School-book on Geography. *Price, half-bound, and beautifully coloured,* L.1 : 11 : 6.

THE EDINBURGH SCHOOL ATLAS, containing 38 Maps and Index, *Price, half-bound and coloured,* 12s.

THE SCHOOL CLASSICAL ATLAS, illustrating the Ancient Classics Historians and Poets, 21 *Maps, coloured, quarter bound, price* 4s.

In course of Publication—THE EDINBURGH NEW GENERAL ATLAS OF THE WORLD, to be completed in Fourteen Numbers, at 8s. each, containing Four Maps *imperial folio, beautifully coloured.* The Maps are constructed and drawn with the greatest accuracy, and engraved in the first style of modern art; and the Proprietors feel assured, that the Atlas, when completed, will form at once the *cheapest and most complete* system of General Geography ever offered to the Public.

*** VARIOUS FRENCH AND ENGLISH ATLASES OF ANCIENT AND MODERN GEOGRAPHY.

MAPS OF THE WORLD.

THE WORLD, in One Sheet, *coloured, price* 3*s.; on rollers varnished,* 7*s.* 6*d.; framed and varnished,* 12*s.* 6*d.* Do. in ons large sheet, *framed and varnished, price* 25*s.* Do. in Four Sheets, *coloured, price* L.1, 18*s.* Do. in Two Hemispheres, Four Sheets, *coloured, price* L.1 : 3 : 6. Do. in Eight Sheets, *size,* 8 *feet* 4 *inches, by* 5 *feet* 3 *inches. On rollers, varnished,* L.5 : 10 : 6.

MAPS OF THE FOUR QUARTERS OF THE WORLD.

ASIA, in Four Sheets, accompanied by accurate Tables of the Physical and Political Geography, Commerce, and General Statistics of Asia, Australasia, &c. *Price, coloured,* 15*s. On rollers, varnished,* L.1 : 7 : 6.

AFRICA, in Four Sheets, from recent Government Surveys, &c. distinguishing in colours the principal European and other Settlements, with an enlarged Map of the Isle of France. *Price* 15*s. on rollers.*

AFRICA, by ARROWSMITH, in Four large Sheets, *size,* 7 *feet* 1 *inch, by* 5 *feet* 6 *inches. Price, coloured, on Rollers, varnished,* L.3, 10*s.*

MAP of the TERRITORY and PLAN of the CITY of ALGIERS, constructed by order of the DUKE OF DALMATIA, in Two Sheets.

MAP of EUROPE, Four Sheets, *coloured, price* 15*s.*

Do. do. do. *price* 16*s.*

Do, in One Sheet, *price* 3s.

MAP of AMERICA, Four Sheets, *coloured, price* 15*s.*

MAP of NORTH AMERICA, Seven Sheets, *on rollers, varnished, size* 5 *feet* 8 *inches, by* 6 *feet, price L.*3, 3*s.*

MAP of the UNITED STATES of NORTH AMERICA, Six Sheets, *size* 5 *feet* 3 *inches, by* 4 *feet* 4 *inches. On rollers, varnished, price* L.2, 15*s.*

MAPS OF BRITISH GEOGRAPHY.

ENGLAND, in One Sheet, shewing all the Railways projected, or in progress, *coloured, price* 3*s.*

BRADSHAW'S MAP and SECTIONS of the RAILWAYS of GREAT BRITAIN, with Tables of the Gradients, in Three Sheets, *coloured.*

SCOTLAND, in One Sheet, with the Railways distinctly *coloured,* 3*s.*

AINSLIE'S MAP of SCOTLAND, New Edition, with the Lines of Railways (Sea Tracks and other important additions to 1840), in Nine Sheets, *size* 6 *feet, by* 5 *feet* 4 *inches, price, coloured,* L.1, 1*s.*; Do. *on rollers, varnished,* L.2, 2*s.*; *in case,* L.1 : 11 : 6; *on spring rollers,* L.3, 3*s.*

ALL the COUNTIES of SCOTLAND, on a large scale, 5*s. per sheet, coloured.*

MAP of the COUNTY of AYR, from a New Survey, in Four Sheets, *price, coloured and varnished in Brass and Mahogany Rods,* L.2, 2*s.*; *on Black Rollers,* L.1, 15*s.*; *Morocco Case or Portfolio,* L.2, 2*s.*; *Plain Case,* L.1, 15*s.*

MAP of the COUNTY of ROXBURGH, from a New Survey, in Two Sheets (*nearly ready*).

*** The New Lines of Railway are laid down on the above Maps from actual Survey.

IRELAND, in One Sheet, from the Government Survey, shewing the projected Railways (*nearly ready*), *price, coloured,* 3*s.*

MAPS OF LONDON AND ITS ENVIRONS.

New Plan of the City of Edinburgh, Leith, and Suburbs, with Parliamentary Boundaries, *in case, coloured, with the Parishes, Wards of Police, &c.* 3*s.*

Miniature Plan of Edinburgh, *on ivory board, folded for the pocket,* 1*s.*

Miniature Plan of Glasgow, *on ivory board, folded for the pocket,* 1*s.*

Miniature Maps of England, Scotland, and Ireland, *on ivory board, coloured,* 1*s.* 6*d. each;—the three in a silk case,* 5*s.* 6*d.*

TRAVELLING MAPS AND GUIDE BOOKS.

Travelling Maps of England, Scotland, Ireland, France, Belgium, Spain, Switzerland, Italy, Sweden and Norway, Prussia and Russia, from the latest and best Authorities, *handsomely mounted in pocket cases, coloured,* 4*s.* 6*d. each.*

All the new and approved Guide and Road Books.

MIMPRISS'S SCRIPTURE GEOGRAPHY.

Separate Maps of Ancient, Scriptural, and Classical Geography. Illustrating the History of the World from the time of Noah to the commencement of the French Revolution, 4*s. per Sheet, coloured; on Rollers,* 8*s.* 6*d.*; *framed and varnished,* 15*s.*

Separate Maps of the Modern Geography of every Country in the World, 3*s. per Sheet coloured;* 7*s.* 6*d, on rollers;* 12*s.* 6*d. framed and varnished.*

Do. do. Small Size, 6*d. each coloured; mounted on boards and varnished,* 1*s.* 6*d. each coloured.* Do. do. 3*d. each coloured.*

GLOBES BY CARY, SMITH, &c.

MAPS, CHARTS, PLANS OF ESTATES, &C. DRAWN, REDUCED, OR ENLARGED, AND ACCURATELY ENGRAVED OR LITHOGRAPHED.

Maps and Plans Mounted on Plain or Spring Rollers, in Cases for the Pocket, or Framed and Varnished.

46 E. 1
132 D

NEW CHART OF THE WORLD,

AND

NEW METHOD OF MOUNTING MAPS, CHARTS, &c.

The opportunity kindly offered to Mr Deacon by the Committee of Arts and Manufactures to display one of the *New Charts of the World* published by Teesdale & Co. of London, and which he is introducing into Scotland, as well as their permitting Mr Deacon's Model for Mounting large Maps, Charts, &c. &c. to be shewn in their Rooms in George Street, having gained for them considerable patronage, he takes this medium of offering thanks for the privilege obtained.

Mr D. begs to inform the Nobility and Gentry, as well as Subscribers generally, that the said New Chart of the World is now in course of delivery in Scotland, and published at L.3, 10s., handsomely fitted up upon Rollers, varnished.

ADDRESS

MR DEACON,

No. 11 Brandon Street, Stockbridge,

Edinburgh.